HERITAGE REMEDIATION/ENGINEERING, INC.

5656 Opportunity Drive
Toledo, OH 43612
Phone: 419/478-4396
FAX: 419/478-4560

December 16, 1992

Ms. Denise Trabbic-Clement
Environmental Technician
Du Pont Automotive Products
1930 Tremainsville Road
Toledo OH 43613

FILE

Re: Summary of Analytical Data for
RCRA Closure of the Boiler House
Area Soil Excavation
Toledo Ohio Plant
HR/E Project No. 62041

Dear Denise,

In working towards closure of the above referenced area, we are summarizing the analytical data reports that are attached. Volatile organic compounds (VOCs) were detected in soils in the excavation floor and walls. The VOCs found are the same as previously detected in soil borings. The concentrations are fairly low when compared to the data from sampling in June 1991. Samples collected in April 1992 show comparable concentration ranges. These are the final analytical results.

Our understanding is that any detectable VOCs exceeds the approved plan as it was prepared in 1988. We also understand that there is some potential that the state may now accept some concentration of VOCs in the soils. This seems appropriate in this situation.

Acetone is the constituent that was found in the highest concentration in the soil. Acetone is very mobile and may have migrated through the soil to a significant depth simply due to diffusion. However, since the soils appear to be very fine grained, probably a clay, migration would be reduced. Clearly the concentration is much less than the samples collected in 1991 and somewhat less than in April 1992. Our conclusion is that excavation of the soil has removed almost all of the contaminants. We are concerned that the mobility of acetone may mean that further excavation and sampling will also show low levels of acetone. In "chasing" the low levels, the building and water line foundations may be put in jeopardy. Since there is no maximum contaminant level (MCL) established or proposed for acetone and acetone

was not detected in the pit water sample, the risk due to remaining contaminants is probably extremely low.

You should note that there was 190 ug/l total xylenes found in the pit water sample. This water seeped into the excavation from the side walls near the water main. The seepage appeared to be through a sand seam rather than through the clay which predominates the area. The MCL for total xylenes is 10,000 ug/l, well above the measured concentration.

Therefore, we recommend that you seek approval to backfill the excavation with clean soils. We suggest that you provide this information to state. Of course, we would gladly provide support and additional information to the state, as you would request.

If you have any questions, do not hesitate to contact us.

Sincerely,
Heritage Remediation/Engineering, Inc.

Joseph D. Ritchey, P.E.
Sr. Project Engineer

attachment

cc: Tim Durbin

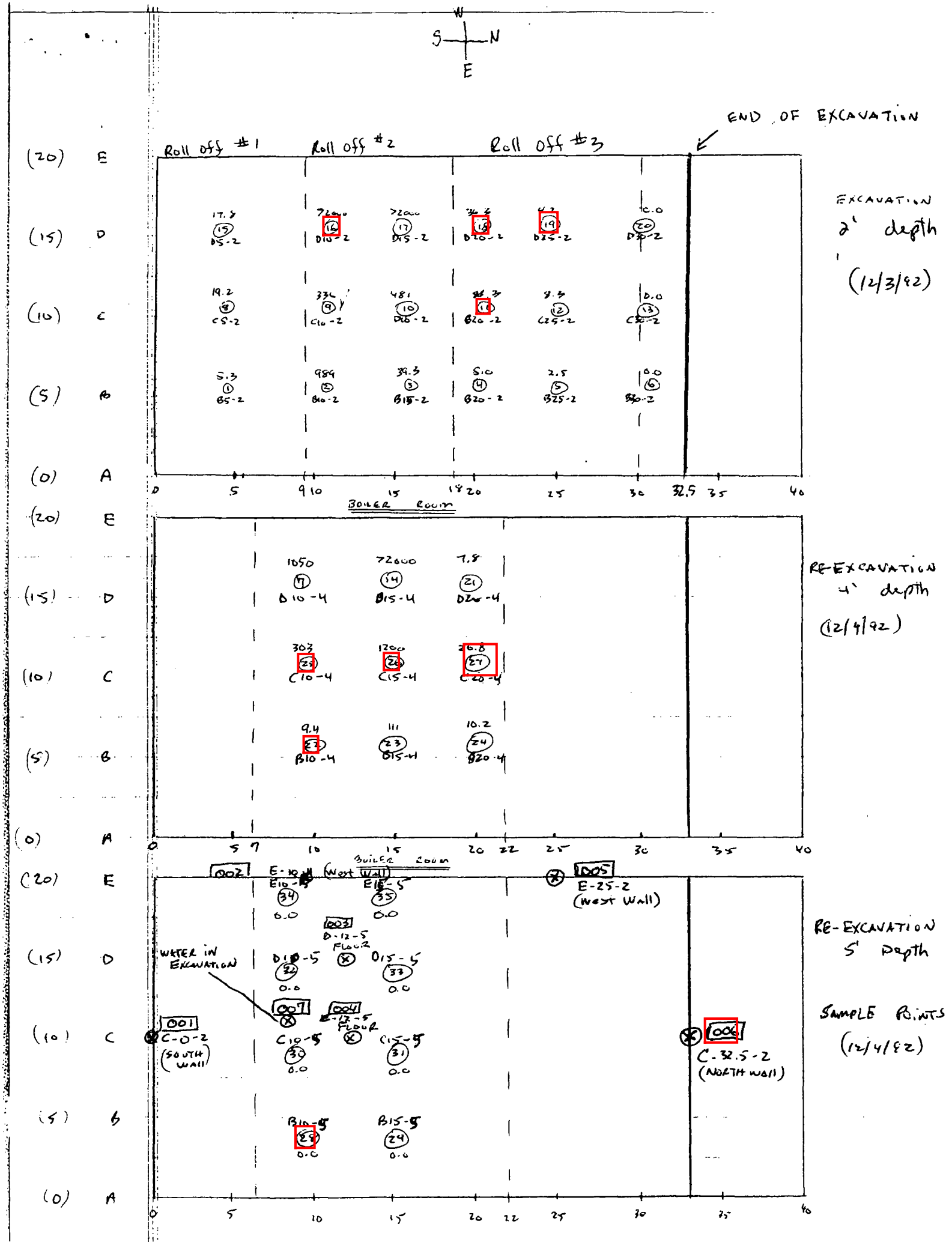
92JR4096.T1

Post-it™ Fax Note 7671	Date 10/18/94	# of pages ▶ 2
To Frank Smith	From Denise	
Co./Dept.	Co.	
Phone #	Phone #	
Fax #	Fax #	

Table 1 Analytical Results of Soils from the Boiler House Area Excavation.
Samples collected on December 4, 1992. Bottom of Excavation

Constituent	C-0-2 South Wall ug/kg	E-10-4 West Wall ug/kg	D-12-5 Floor ug/kg	B-12-5 Floor ug/kg	E-25-2 West Wall ug/kg	C-32.5-2 North Wall ug/kg	Water in Pit ug/l	Trip Blank ug/l
Volatile Organics								
Acetone	70	42	57	33	45	45	<20	<20
Ethyl Benzene	<5	<5	<5	<5	<5	<5	26	<5
Methylene Chloride	9	11	<5	5 Est.	9	13	<5	<5
Methyl Ethyl Ketone	22	10 Est.	17	<10	16	16	<10	<10
Toluene	12	<5	<5	<5	<5	<5	<5	<5
Total Xylenes	<5	<5	<5	<5	<5	<5	190	<5
Semi-Volatile Organics[1]								

1 - No Constituents Detected.


N
S
N
E
END OF EXCAVATION
Roll off #1
Roll off #2
Roll off #3
(20) E
(15) D
(10) C
(5) B
(0) A
0 5 9 10 15 18 20 25 30 32.5 35 40
BOILER ROOM
EXCAVATION
2' depth
(12/3/92)
RE-EXCAVATION
4' depth
(12/4/92)
RE-EXCAVATION
5' Depth
SAMPLE POINTS
(12/4/92)
WATER IN EXCAVATION
E-25-2
(West Wall)
C-0-2
(SOUTH WALL)
C-32.5-2
(NORTH WALL)
D-12-5
FLOOR
C-12-5
FLOOR

CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
IERITAGE LABORATORIES, INC. 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8305	08-DEC-92	1871	A268672
	Complete	PO Number	
	11-DEC-92	29-1497	
	Printed	Sampled	
	12-DEC-92	04-DEC-92 17:30	

Report To	Bill To
STEVE KLEMM HERITAGE REMEDIATION/ENGINEERING, INC 5656 OPPORTUNITY DRIVE TOLEDO, OH 43612	STEVE SMITH HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPURTUNITY DRIVE TOLEDO, OH 43612

Sample Description

LOCATION: DUPONT AUTOMOTIVE FINISHES
SAMPLE ID: 006
SAMPLE DESCRIPTION: C-32.5-2 (NORTH WALL)
DESCRIPTION

VOLATILE ORGANICS (HEATED PURGE & TRAP) SW846-8240

Analyst: R. SHAMP Analysis Date: 09-DEC-92 Instrument: GC/MS VOA Test: 0510.9.0

Parameter	Result	Det. Limit	Units
ACETONE	45	20	ug/kg
ROLEIN	BDL	50	ug/kg
RYLONITRILE	BDL	70	ug/kg
BENZENE	BDL	5	ug/kg
BROMODICHLOROMETHANE	BDL	5	ug/kg
BROMOFORM	BDL	5	ug/kg
BROMOMETHANE	BDL	10	ug/kg
CARBON DISULFIDE	BDL	5	ug/kg
CARBON TETRACHLORIDE	BDL	5	ug/kg
CHLOROBENZENE	BDL	5	ug/kg
CHLOROETHANE	BDL	10	ug/kg
CHLOROFORM	BDL	5	ug/kg
CHLOROMETHANE	BDL	10	ug/kg
DIBROMOCHLOROMETHANE	BDL	5	ug/kg
CIS-1,3-DICHLOROPROPENE	BDL	5	ug/kg
DICHLORODIFLUOROMETHANE	BDL	5	ug/kg
1,1-DICHLOROETHANE	BDL	5	ug/kg
1,2-DICHLOROETHANE	BDL	5	ug/kg
1,1-DICHLOROETHENE	BDL	5	ug/kg
1,2-DICHLOROPROPANE	BDL	5	ug/kg
ETHYLBENZENE	BDL	5	ug/kg
FLUOROTRICHLOROMETHANE	BDL	5	ug/kg
2-HEXANONE	BDL	10	ug/kg
METHYLENE CHLORIDE	13	5	ug/kg
METHYL ETHYL KETONE	16	10	ug/kg
4-METHYL-2-PENTANONE	BDL	10	ug/kg
STYRENE	BDL	5	ug/kg
,1,2,2-TETRACHLOROETHANE	BDL	5	ug/kg
,ETRACHLOROETHENE	BDL	5	ug/kg
TETRAHYDROFURAN	BDL	25	ug/kg
TOLUENE	BDL	5	ug/kg
1,2-DICHLOROETHENE (TOTAL)	BDL	5	ug/kg

HERITAGE LABORATORIES, INC. Lab Sample ID: A268667

Parameter	Result	Det. Limit	Units
TRANS-1,3-DICHLOROPROPENE	BDL	5	ug/kg
,1,1-TRICHLOROETHANE	BDL	5	ug/kg
,1,2-TRICHLOROETHANE	BDL	5	ug/kg
TRICHLOROETHENE	BDL	5	ug/kg
VINYL ACETATE	BDL	10	ug/kg
VINYL CHLORIDE	BDL	10	ug/kg
XYLENE (TOTAL)	BDL	5	ug/kg
SURROGATE RECOVERY			
DICHLOROETHANE-D4	104		% Rec
TOLUENE-D8	103		% Rec
BROMOFLUOROBENZENE	97		% Rec

GC/MS SONICATION EXTRACTION FOR ORGANICS SW846-3550
Analyst: M. FRANK Analysis Date: 09-DEC-92 Test: P236.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	30.0		Grams
FINAL VOLUME	1		mL

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL/ACID FRACTIONS) SW846-8270
Analyst: J. MINNIEAR, II Analysis Date: 10-DEC-92 Instrument: GC/MS SVOA Test: 0505.3.0
Prep: GC/MS SONICATION EXTRACTION FOR ORGANICS SW846-3550 P236.4.0

Parameter	Result	Det. Limit	Units
ACENAPHTHENE	BDL	330	ug/kg
ACENAPHTHYLENE	BDL	330	ug/kg
NTHRACENE	BDL	330	ug/kg
NZ(A)ANTHRACENE	BDL	330	ug/kg
ENZO(A)PYRENE	BDL	330	ug/kg
BENZO(B)FLUORANTHENE	BDL	330	ug/kg
BENZO(G,H,I)PERYLENE	BDL	330	ug/kg
BENZO(K)FLUORANTHENE	BDL	330	ug/kg
BENZYL ALCOHOL	BDL	330	ug/kg
BENZYLBUTYLPHTHALATE	BDL	330	ug/kg
BIS(2-CHLOROETHOXY)METHANE	BDL	330	ug/kg
BIS(2-CHLOROETHYL)ETHER	BDL	330	ug/kg
BIS(2-CHLOROISOPROPYL)ETHER	BDL	330	ug/kg
BIS(2-ETHYLHEXYL)PHTHALATE	BDL	330	ug/kg
4-BROMOPHENYLPHENYLETHER	BDL	330	ug/kg
CARBAZOLE	BDL	330	ug/kg
4-CHLOROANILINE	BDL	330	ug/kg
2-CHLORONAPHTHALENE	BDL	330	ug/kg
4-CHLOROPHENYLPHENYLETHER	BDL	330	ug/kg
CHRYSENE	BDL	330	ug/kg
DIBENZ(A,H)ANTHRACENE	BDL	330	ug/kg
DIBENZOFURAN	BDL	330	ug/kg
1,2-DICHLOROBENZENE	BDL	330	ug/kg
1,3-DICHLOROBENZENE	BDL	330	ug/kg
1,4-DICHLOROBENZENE	BDL	330	ug/kg
3,3'-DICHLOROBENZIDINE	BDL	660	ug/kg
DIETHYLPHTHALATE	BDL	330	ug/kg
DIMETHYLPHTHALATE	BDL	330	ug/kg
-N-BUTYLPHTHALATE	BDL	330	ug/kg
NITROBENZENES	BDL	330	ug/kg
2,4-DINITROTOLUENE	BDL	330	ug/kg
2,6-DINITROTOLUENE	BDL	330	ug/kg
DI-N-OCTYLPHTHALATE	BDL	330	ug/kg

HERITAGE LABORATORIES, INC. Lab Sample ID: A268667

Parameter	Result	Det. Limit	Units
FLUORANTHENE	BDL	330	ug/kg
FLUORENE	BDL	330	ug/kg
HEXACHLOROBENZENE	BDL	330	ug/kg
HEXACHLOROBUTADIENE	BDL	330	ug/kg
HEXACHLOROCYCLOPENTADIENE	BDL	330	ug/kg
HEXACHLOROETHANE	BDL	330	ug/kg
INDENO(1,2,3-CD)PYRENE	BDL	330	ug/kg
ISOPHORONE	BDL	330	ug/kg
2-METHYLNAPHTHALENE	BDL	330	ug/kg
NAPHTHALENE	BDL	330	ug/kg
2-NITROANILINE	BDL	1600	ug/kg
3-NITROANILINE	BDL	1600	ug/kg
4-NITROANILINE	BDL	1600	ug/kg
NITROBENZENE	BDL	330	ug/kg
N-NITROSO-DIPHENYLAMINE	BDL	330	ug/kg
N-NITROSO-DI-N-PROPYLAMINE	BDL	330	ug/kg
PHENANTHRENE	BDL	330	ug/kg
2-PICOLINE	BDL	1600	ug/kg
PYRENE	BDL	330	ug/kg
PYRIDINE	BDL	1600	ug/kg
TETRACHLOROBENZENES	BDL	330	ug/kg
TOLUENEDIAMINE	BDL	1600	ug/kg
1,2,4-TRICHLOROBENZENE	BDL	330	ug/kg
BENZOIC ACID	BDL	1600	ug/kg
4-CHLORO-3-METHYLPHENOL	BDL	330	ug/kg
2-CHLOROPHENOL	BDL	330	ug/kg
4-DICHLOROPHENOL	BDL	330	ug/kg
,4-DIMETHYLPHENOL	BDL	330	ug/kg
4,6-DINITRO-2-METHYLPHENOL	BDL	1600	ug/kg
2,4-DINITROPHENOL	BDL	1600	ug/kg
2-METHYLPHENOL	BDL	330	ug/kg
4-METHYLPHENOL	BDL	330	ug/kg
2-NITROPHENOL	BDL	330	ug/kg
4-NITROPHENOL	BDL	1600	ug/kg
PENTACHLOROPHENOL	BDL	1600	ug/kg
PHENOL	BDL	330	ug/kg
TETRACHLOROPHENOL	BDL	330	ug/kg
2,4,5-TRICHLOROPHENOL	BDL	1600	ug/kg
2,4,6-TRICHLOROPHENOL	BDL	330	ug/kg
SURROGATE RECOVERY			
2-FLUOROPHENOL	82		% Rec
PHENOL-D5	97		% Rec
NITROBENZENE-D5	99		% Rec
2-FLUOROBIPHENYL	105		% Rec
2,4,6-TRIBROMOPHENOL	80		% Rec
TERPHENYL-D14	115		% Rec

Sample Comments

BDL Below Detection Limit

mple chain of custody number 16590.

IDEM Drinking Water Certification Number C-49-01

Sample Comments

This Certificate shall not be reproduced, except in full, without the written approval of the lab.

Additional copies of this report sent to:
JOE RITCHIE, HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPORTUNITY DRIVE, TOLEDO, OH 43612

Quality Assurance Officer: _____

CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
HERITAGE LABORATORIES, INC. 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8305	08-DEC-92	1871	A268671
	Complete	PO Number	
	11-DEC-92	29-1497	
	Printed	Sampled	
	12-DEC-92	04-DEC-92 17:20	

Report To

STEVE KLEMM
HERITAGE REMEDIATION/ENGINEERING, INC
5656 OPPORTUNITY DRIVE
TOLEDO, OH 43612

Bill To

STEVE SMITH
HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPURTUNITY DRIVE
TOLEDO, OH 43612

Sample Description

LOCATION: DUPONT AUTOMOTIVE FINISHES
SAMPLE ID: 005
SAMPLE DESCRIPTION: E-25-2 (WEST WALL)
DESCRIPTION

VOLATILE ORGANICS (HEATED PURGE & TRAP) SW846-8240

Analyst: R. SHAMP Analysis Date: 09-DEC-92 Instrument: GC/MS VOA Test: 0510.9.0

Parameter	Result	Det. Limit	Units
ACETONE	45	20	ug/kg
CROLEIN	BDL	50	ug/kg
RYLONITRILE	BDL	70	ug/kg
BENZENE	BDL	5	ug/kg
BROMODICHLOROMETHANE	BDL	5	ug/kg
BROMOFORM	BDL	5	ug/kg
BROMOMETHANE	BDL	10	ug/kg
CARBON DISULFIDE	BDL	5	ug/kg
CARBON TETRACHLORIDE	BDL	5	ug/kg
CHLOROBENZENE	BDL	5	ug/kg
CHLOROETHANE	BDL	10	ug/kg
CHLOROFORM	BDL	5	ug/kg
CHLOROMETHANE	BDL	10	ug/kg
DIBROMOCHLOROMETHANE	BDL	5	ug/kg
CIS-1,3-DICHLOROPROPENE	BDL	5	ug/kg
DICHLORODIFLUOROMETHANE	BDL	5	ug/kg
1,1-DICHLOROETHANE	BDL	5	ug/kg
1,2-DICHLOROETHANE	BDL	5	ug/kg
1,1-DICHLOROETHENE	BDL	5	ug/kg
1,2-DICHLOROPROPANE	BDL	5	ug/kg
ETHYLBENZENE	BDL	5	ug/kg
FLUOROTRICHLOROMETHANE	BDL	5	ug/kg
2-HEXANONE	BDL	10	ug/kg
METHYLENE CHLORIDE	9	5	ug/kg
METHYL ETHYL KETONE	16	10	ug/kg
4-METHYL-2-PENTANONE	BDL	10	ug/kg
STYRENE	BDL	5	ug/kg
1,2,2-TETRACHLOROETHANE	BDL	5	ug/kg
TRACHLOROETHENE	BDL	5	ug/kg
TETRAHYDROFURAN	BDL	25	ug/kg
TOLUENE	BDL	5	ug/kg
1,2-DICHLOROETHENE (TOTAL)	BDL	5	ug/kg

HERITAGE LABORATORIES, INC. Lab Sample ID: A268668

Parameter	Result	Det. Limit	Units
TRANS-1,3-DICHLOROPROPENE	BDL	5	ug/kg
1,1,1-TRICHLOROETHANE	BDL	5	ug/kg
1,1,2-TRICHLOROETHANE	BDL	5	ug/kg
TRICHLOROETHENE	BDL	5	ug/kg
VINYL ACETATE	BDL	10	ug/kg
VINYL CHLORIDE	BDL	10	ug/kg
XYLENE (TOTAL)	BDL	5	ug/kg
SURROGATE RECOVERY			
DICHLOROETHANE-D4	83		% Rec
TOLUENE-D8	95		% Rec
BROMOFLUOROBENZENE	104		% Rec

GC/MS SONICATION EXTRACTION FOR ORGANICS SW846-3550

Analyst: M. FRANK Analysis Date: 09-DEC-92 Test: P236.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	30.0		Grams
FINAL VOLUME	1		mL

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL/ACID FRACTIONS) SW846-8270

Analyst: J. MINNIEAR, II Analysis Date: 10-DEC-92 Instrument: GC/MS SVOA Test: 0505.3.0

Prep: GC/MS SONICATION EXTRACTION FOR ORGANICS SW846-3550 P236.4.0

Parameter	Result	Det. Limit	Units
ACENAPHTHENE	BDL	330	ug/kg
ACENAPHTHYLENE	BDL	330	ug/kg
ANTHRACENE	BDL	330	ug/kg
BENZ(A)ANTHRACENE	BDL	330	ug/kg
BENZO(A)PYRENE	BDL	330	ug/kg
BENZO(B)FLUORANTHENE	BDL	330	ug/kg
BENZO(G,H,I)PERYLENE	BDL	330	ug/kg
BENZO(K)FLUORANTHENE	BDL	330	ug/kg
BENZYL ALCOHOL	BDL	330	ug/kg
BENZYLBUTYLPHTHALATE	BDL	330	ug/kg
BIS(2-CHLOROETHOXY)METHANE	BDL	330	ug/kg
BIS(2-CHLOROETHYL)ETHER	BDL	330	ug/kg
BIS(2-CHLOROISOPROPYL)ETHER	BDL	330	ug/kg
BIS(2-ETHYLHEXYL)PHTHALATE	BDL	330	ug/kg
4-BROMOPHENYLPHENYLETHER	BDL	330	ug/kg
CARBAZOLE	BDL	330	ug/kg
4-CHLOROANILINE	BDL	330	ug/kg
2-CHLORONAPHTHALENE	BDL	330	ug/kg
4-CHLOROPHENYLPHENYLETHER	BDL	330	ug/kg
CHRYSENE	BDL	330	ug/kg
DIBENZ(A,H)ANTHRACENE	BDL	330	ug/kg
DIBENZOFURAN	BDL	330	ug/kg
1,2-DICHLOROBENZENE	BDL	330	ug/kg
1,3-DICHLOROBENZENE	BDL	330	ug/kg
1,4-DICHLOROBENZENE	BDL	330	ug/kg
3,3'-DICHLOROBENZIDINE	BDL	660	ug/kg
DIETHYLPHTHALATE	BDL	330	ug/kg
DIMETHYLPHTHALATE	BDL	330	ug/kg
DI-N-BUTYLPHTHALATE	BDL	330	ug/kg
DINITROBENZENES	BDL	330	ug/kg
2,4-DINITROTOLUENE	BDL	330	ug/kg
2,6-DINITROTOLUENE	BDL	330	ug/kg
DI-N-OCTYLPHTHALATE	BDL	330	ug/kg

HERITAGE LABORATORIES, INC. **Lab Sample ID: A268668**

Parameter	Result	Det. Limit	Units
FLUORANTHENE	BDL	330	ug/kg
UORENE	BDL	330	ug/kg
HEXACHLOROBENZENE	BDL	330	ug/kg
HEXACHLOROBUTADIENE	BDL	330	ug/kg
HEXACHLOROCYCLOPENTADIENE	BDL	330	ug/kg
HEXACHLOROETHANE	BDL	330	ug/kg
INDENO(1,2,3-CD)PYRENE	BDL	330	ug/kg
ISOPHORONE	BDL	330	ug/kg
2-METHYLNAPHTHALENE	BDL	330	ug/kg
NAPHTHALENE	BDL	330	ug/kg
2-NITROANILINE	BDL	1600	ug/kg
3-NITROANILINE	BDL	1600	ug/kg
4-NITROANILINE	BDL	1600	ug/kg
NITROBENZENE	BDL	330	ug/kg
N-NITROSO-DIPHENYLAMINE	BDL	330	ug/kg
N-NITROSO-DI-N-PROPYLAMINE	BDL	330	ug/kg
PHENANTHRENE	BDL	330	ug/kg
2-PICOLINE	BDL	1600	ug/kg
PYRENE	BDL	330	ug/kg
PYRIDINE	BDL	1600	ug/kg
TETRACHLOROBENZENES	BDL	330	ug/kg
TOLUENEDIAMINE	BDL	1600	ug/kg
1,2,4-TRICHLOROBENZENE	BDL	330	ug/kg
BENZOIC ACID	BDL	1600	ug/kg
4-CHLORO-3-METHYLPHENOL	BDL	330	ug/kg
2-CHLOROPHENOL	BDL	330	ug/kg
,4-DICHLOROPHENOL	BDL	330	ug/kg
,4-DIMETHYLPHENOL	BDL	330	ug/kg
4,6-DINITRO-2-METHYLPHENOL	BDL	1600	ug/kg
2,4-DINITROPHENOL	BDL	1600	ug/kg
2-METHYLPHENOL	BDL	330	ug/kg
4-METHYLPHENOL	BDL	330	ug/kg
2-NITROPHENOL	BDL	330	ug/kg
4-NITROPHENOL	BDL	1600	ug/kg
PENTACHLOROPHENOL	BDL	1600	ug/kg
PHENOL	BDL	330	ug/kg
TETRACHLOROPHENOL	BDL	330	ug/kg
2,4,5-TRICHLOROPHENOL	BDL	1600	ug/kg
2,4,6-TRICHLOROPHENOL	BDL	330	ug/kg
SURROGATE RECOVERY			
2-FLUOROPHENOL	72		% Rec
PHENOL-D5	94		% Rec
NITROBENZENE-D5	95		% Rec
2-FLUOROBIPHENYL	101		% Rec
2,4,6-TRIBROMOPHENOL	52		% Rec
TERPHENYL-D14	110		% Rec

Sample Comments

BDL Below Detection Limit
EST Estimated Value

Sample chain of custody number 16590.

Sample Comments

'DEM Drinking Water Certification Number C-49-01
his certificate shall not be reproduced, except in full,
without the written approval of the lab.

Additional copies of this report sent to:
JOE RITCHIE, HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPORTUNITY DRIVE, TOLEDO, OH 43612

Quality Assurance Officer: _____

CERTIFICATE OF ANALYSIS

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STEVE KLEMM HERITAGE REMEDIATION/ENGINEERING, INC 5656 OPPORTUNITY DRIVE TOLEDO, OH 43612	STEVE SMITH HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPURTUNITY DRIVE TOLEDO, OH 43612

Sample Description

LOCATION: DUPONT AUTOMOTIVE FINISHES
SAMPLE ID: 003
SAMPLE DESCRIPTION: D-12-5 (FLOOR)
DESCRIPTION

VOLATILE ORGANICS (HEATED PURGE & TRAP) SW846-8240

Analyst: R. SHAMP Analysis Date: 09-DEC-92 Instrument: GC/MS VOA Test: 0510.9.0

Parameter	Result	Det. Limit	Units
ACETONE	57	20	ug/kg
^CROLEIN	BDL	50	ug/kg
RYLONITRILE	BDL	70	ug/kg
ENZENE	BDL	5	ug/kg
BROMODICHLOROMETHANE	BDL	5	ug/kg
BROMOFORM	BDL	5	ug/kg
BROMOMETHANE	BDL	10	ug/kg
CARBON DISULFIDE	BDL	5	ug/kg
CARBON TETRACHLORIDE	BDL	5	ug/kg
CHLOROBENZENE	BDL	5	ug/kg
CHLOROETHANE	BDL	10	ug/kg
CHLOROFORM	BDL	5	ug/kg
CHLOROMETHANE	BDL	10	ug/kg
DIBROMOCHLOROMETHANE	BDL	5	ug/kg
CIS-1,3-DICHLOROPROPENE	BDL	5	ug/kg
DICHLORODIFLUOROMETHANE	BDL	5	ug/kg
1,1-DICHLOROETHANE	BDL	5	ug/kg
1,2-DICHLOROETHANE	BDL	5	ug/kg
1,1-DICHLOROETHENE	BDL	5	ug/kg
1,2-DICHLOROPROPANE	BDL	5	ug/kg
ETHYLBENZENE	BDL	5	ug/kg
FLUOROTRICHLOROMETHANE	BDL	5	ug/kg
2-HEXANONE	BDL	10	ug/kg
METHYLENE CHLORIDE	BDL	5	ug/kg
METHYL ETHYL KETONE	17	10	ug/kg
4-METHYL-2-PENTANONE	BDL	10	ug/kg
STYRENE	BDL	5	ug/kg
1,2,2-TETRACHLOROETHANE	BDL	5	ug/kg
TRACHLOROETHENE	BDL	5	ug/kg
TETRAHYDROFURAN	BDL	25	ug/kg
TOLUENE	BDL	5	ug/kg
1,2-DICHLOROETHENE (TOTAL)	BDL	5	ug/kg

HERITAGE LABORATORIES, INC. Lab Sample ID: A268669

Parameter	Result	Det. Limit	Units
TRANS-1,3-DICHLOROPROPENE	BDL	5	ug/kg
,1,1-TRICHLOROETHANE	BDL	5	ug/kg
,1,2-TRICHLOROETHANE	BDL	5	ug/kg
TRICHLOROETHENE	BDL	5	ug/kg
VINYL ACETATE	BDL	10	ug/kg
VINYL CHLORIDE	BDL	10	ug/kg
XYLENE (TOTAL)	BDL	5	ug/kg
SURROGATE RECOVERY			
DICHLOROETHANE-D4	108		% Rec
TOLUENE-D8	102		% Rec
BROMOFLUOROBENZENE	98		% Rec

GC/MS SONICATION EXTRACTION FOR ORGANICS SW846-3550

Analyst: M. FRANK Analysis Date: 09-DEC-92 Test: P236.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	30.0		Grams
FINAL VOLUME	1		mL

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL/ACID FRACTIONS) SW846-8270

Analyst: J. MINNIEAR, II Analysis Date: 10-DEC-92 Instrument: GC/MS SVOA Test: 0505.3.0

Prep: GC/MS SONICATION EXTRACTION FOR ORGANICS SW846-3550 P236.4.0

Parameter	Result	Det. Limit	Units
ACENAPHTHENE	BDL	330	ug/kg
ACENAPHTHYLENE	BDL	330	ug/kg
NTHRACENE	BDL	330	ug/kg
NZ(A)ANTHRACENE	BDL	330	ug/kg
BENZO(A)PYRENE	BDL	330	ug/kg
BENZO(B)FLUORANTHENE	BDL	330	ug/kg
BENZO(G,H,I)PERYLENE	BDL	330	ug/kg
BENZO(K)FLUORANTHENE	BDL	330	ug/kg
BENZYL ALCOHOL	BDL	330	ug/kg
BENZYLBUTYLPHTHALATE	BDL	330	ug/kg
BIS(2-CHLOROETHOXY)METHANE	BDL	330	ug/kg
BIS(2-CHLOROETHYL)ETHER	BDL	330	ug/kg
BIS(2-CHLOROISOPROPYL)ETHER	BDL	330	ug/kg
BIS(2-ETHYLHEXYL)PHTHALATE	BDL	330	ug/kg
4-BROMOPHENYLPHENYLETHER	BDL	330	ug/kg
CARBAZOLE	BDL	330	ug/kg
4-CHLOROANILINE	BDL	330	ug/kg
2-CHLORONAPHTHALENE	BDL	330	ug/kg
4-CHLOROPHENYLPHENYLETHER	BDL	330	ug/kg
CHRYSENE	BDL	330	ug/kg
DIBENZ(A,H)ANTHRACENE	BDL	330	ug/kg
DIBENZOFURAN	BDL	330	ug/kg
1,2-DICHLOROBENZENE	BDL	330	ug/kg
1,3-DICHLOROBENZENE	BDL	330	ug/kg
1,4-DICHLOROBENZENE	BDL	330	ug/kg
3,3'-DICHLOROBENZIDINE	BDL	660	ug/kg
DIETHYLPHTHALATE	BDL	330	ug/kg
DIMETHYLPHTHALATE	BDL	330	ug/kg
I-N-BUTYLPHTHALATE	BDL	330	ug/kg
INITROBENZENES	BDL	330	ug/kg
2,4-DINITROTOLUENE	BDL	330	ug/kg
2,6-DINITROTOLUENE	BDL	330	ug/kg
DI-N-OCTYLPHTHALATE	BDL	330	ug/kg

Parameter	Result	Det. Limit	Units
FLUORANTHENE	BDL	330	ug/kg
UORENE	BDL	330	ug/kg
..EXACHLOROBENZENE	BDL	330	ug/kg
HEXACHLOROBUTADIENE	BDL	330	ug/kg
HEXACHLOROCYCLOPENTADIENE	BDL	330	ug/kg
HEXACHLOROETHANE	BDL	330	ug/kg
INDENO(1,2,3-CD)PYRENE	BDL	330	ug/kg
ISOPHORONE	BDL	330	ug/kg
2-METHYLNAPHTHALENE	BDL	330	ug/kg
NAPHTHALENE	BDL	330	ug/kg
2-NITROANILINE	BDL	1600	ug/kg
3-NITROANILINE	BDL	1600	ug/kg
4-NITROANILINE	BDL	1600	ug/kg
NITROBENZENE	BDL	330	ug/kg
N-NITROSO-DIPHENYLAMINE	BDL	330	ug/kg
N-NITROSO-DI-N-PROPYLAMINE	BDL	330	ug/kg
PHENANTHRENE	BDL	330	ug/kg
2-PICOLINE	BDL	1600	ug/kg
PYRENE	BDL	330	ug/kg
PYRIDINE	BDL	1600	ug/kg
TETRACHLOROBENZENES	BDL	330	ug/kg
TOLUENEDIAMINE	BDL	1600	ug/kg
1,2,4-TRICHLOROBENZENE	BDL	330	ug/kg
BENZOIC ACID	BDL	1600	ug/kg
4-CHLORO-3-METHYLPHENOL	BDL	330	ug/kg
2-CHLOROPHENOL	BDL	330	ug/kg
?,4-DICHLOROPHENOL	BDL	330	ug/kg
4-DIMETHYLPHENOL	BDL	330	ug/kg
4,6-DINITRO-2-METHYLPHENOL	BDL	1600	ug/kg
2,4-DINITROPHENOL	BDL	1600	ug/kg
2-METHYLPHENOL	BDL	330	ug/kg
4-METHYLPHENOL	BDL	330	ug/kg
2-NITROPHENOL	BDL	330	ug/kg
4-NITROPHENOL	BDL	1600	ug/kg
PENTACHLOROPHENOL	BDL	1600	ug/kg
PHENOL	BDL	330	ug/kg
TETRACHLOROPHENOL	BDL	330	ug/kg
2,4,5-TRICHLOROPHENOL	BDL	1600	ug/kg
2,4,6-TRICHLOROPHENOL	BDL	330	ug/kg
SURROGATE RECOVERY			

2-FLUOROPHENOL	71		% Rec
PHENOL-D5	91		% Rec
NITROBENZENE-D5	89		% Rec
2-FLUOROBIPHENYL	95		% Rec
2,4,6-TRIBROMOPHENOL	71		% Rec
TERPHENYL-D14	113		% Rec

Sample Comments

BDL Below Detection Limit

ɪmple chain of custody number 16590.

IDEM Drinking Water Certification Number C-49-01

Sample Comments

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5656 OPPORTUNITY DRIVE, TOLEDO, OH 43612

Quality Assurance Officer: _____

CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
HERITAGE LABORATORIES, INC. 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8305	08-DEC-92	1871	A268670
	Complete: 11-DEC-92	PO Number: 29-1497	
	Printed: 12-DEC-92	Sampled: 04-DEC-92 17:10	

Report To

STEVE KLEMM
HERITAGE REMEDIATION/ENGINEERING, INC
5656 OPPORTUNITY DRIVE
TOLEDO, OH 43612

Bill To

STEVE SMITH
HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPURTUNITY DRIVE
TOLEDO, OH 43612

Sample Description

LOCATION: DUPONT AUTOMOTIVE FINISHES
SAMPLE ID: 004
SAMPLE DESCRIPTION: B-12-5 (FLOOR)
DESCRIPTION

VOLATILE ORGANICS (HEATED PURGE & TRAP) SW846-8240

Analyst: R. SHAMP Analysis Date: 09-DEC-92 Instrument: GC/MS VOA Test: 0510.9.0

Parameter	Result	Det. Limit	Units
ACETONE	33	20	ug/kg
ACROLEIN	BDL	50	ug/kg
ACRYLONITRILE	BDL	70	ug/kg
BENZENE	BDL	5	ug/kg
BROMODICHLOROMETHANE	BDL	5	ug/kg
BROMOFORM	BDL	5	ug/kg
BROMOMETHANE	BDL	10	ug/kg
CARBON DISULFIDE	BDL	5	ug/kg
CARBON TETRACHLORIDE	BDL	5	ug/kg
CHLOROBENZENE	BDL	5	ug/kg
CHLOROETHANE	BDL	10	ug/kg
CHLOROFORM	BDL	5	ug/kg
CHLOROMETHANE	BDL	10	ug/kg
DIBROMOCHLOROMETHANE	BDL	5	ug/kg
CIS-1,3-DICHLOROPROPENE	BDL	5	ug/kg
DICHLORODIFLUOROMETHANE	BDL	5	ug/kg
1,1-DICHLOROETHANE	BDL	5	ug/kg
1,2-DICHLOROETHANE	BDL	5	ug/kg
1,1-DICHLOROETHENE	BDL	5	ug/kg
1,2-DICHLOROPROPANE	BDL	5	ug/kg
ETHYLBENZENE	BDL	5	ug/kg
FLUOROTRICHLOROMETHANE	BDL	5	ug/kg
2-HEXANONE	BDL	10	ug/kg
METHYLENE CHLORIDE	EST 5	5	ug/kg
METHYL ETHYL KETONE	BDL	10	ug/kg
4-METHYL-2-PENTANONE	BDL	10	ug/kg
STYRENE	BDL	5	ug/kg
1,1,2,2-TETRACHLOROETHANE	BDL	5	ug/kg
TETRACHLOROETHENE	BDL	5	ug/kg
TETRAHYDROFURAN	BDL	25	ug/kg
TOLUENE	BDL	5	ug/kg
1,2-DICHLOROETHENE (TOTAL)	BDL	5	ug/kg

HERITAGE LABORATORIES, INC. Lab Sample ID: A268670

Parameter	Result	Det. Limit	Units
TRANS-1,3-DICHLOROPROPENE	BDL	5	ug/kg
,1,1-TRICHLOROETHANE	BDL	5	ug/kg
1,1,2-TRICHLOROETHANE	BDL	5	ug/kg
TRICHLOROETHENE	BDL	5	ug/kg
VINYL ACETATE	BDL	10	ug/kg
VINYL CHLORIDE	BDL	10	ug/kg
XYLENE (TOTAL)	BDL	5	ug/kg
SURROGATE RECOVERY			
DICHLOROETHANE-D4	110		% Rec
TOLUENE-D8	105		% Rec
BROMOFLUOROBENZENE	101		% Rec

GC/MS SONICATION EXTRACTION FOR ORGANICS SW846-3550
Analyst: M. FRANK Analysis Date: 09-DEC-92 Test: P236.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	30.0		Grams
FINAL VOLUME	1		mL

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL/ACID FRACTIONS) SW846-8270
Analyst: J. MINNIEAR, II Analysis Date: 10-DEC-92 Instrument: GC/MS SVOA Test: 0505.3.0
Prep: GC/MS SONICATION EXTRACTION FOR ORGANICS SW846-3550 P236.4.0

Parameter	Result	Det. Limit	Units
ACENAPHTHENE	BDL	330	ug/kg
ACENAPHTHYLENE	BDL	330	ug/kg
THRACENE	BDL	330	ug/kg
NZ(A)ANTHRACENE	BDL	330	ug/kg
BENZO(A)PYRENE	BDL	330	ug/kg
BENZO(B)FLUORANTHENE	BDL	330	ug/kg
BENZO(G,H,I)PERYLENE	BDL	330	ug/kg
BENZO(K)FLUORANTHENE	BDL	330	ug/kg
BENZYL ALCOHOL	BDL	330	ug/kg
BENZYLBUTYLPHTHALATE	BDL	330	ug/kg
BIS(2-CHLOROETHOXY)METHANE	BDL	330	ug/kg
BIS(2-CHLOROETHYL)ETHER	BDL	330	ug/kg
BIS(2-CHLOROISOPROPYL)ETHER	BDL	330	ug/kg
BIS(2-ETHYLHEXYL)PHTHALATE	BDL	330	ug/kg
4-BROMOPHENYLPHENYLETHER	BDL	330	ug/kg
CARBAZOLE	BDL	330	ug/kg
4-CHLOROANILINE	BDL	330	ug/kg
2-CHLORONAPHTHALENE	BDL	330	ug/kg
4-CHLOROPHENYLPHENYLETHER	BDL	330	ug/kg
CHRYSENE	BDL	330	ug/kg
DIBENZ(A,H)ANTHRACENE	BDL	330	ug/kg
DIBENZOFURAN	BDL	330	ug/kg
1,2-DICHLOROBENZENE	BDL	330	ug/kg
1,3-DICHLOROBENZENE	BDL	330	ug/kg
1,4-DICHLOROBENZENE	BDL	330	ug/kg
3,3'-DICHLOROBENZIDINE	BDL	660	ug/kg
DIETHYLPHTHALATE	BDL	330	ug/kg
DIMETHYLPHTHALATE	BDL	330	ug/kg
-N-BUTYLPHTHALATE	BDL	330	ug/kg
DINITROBENZENES	BDL	330	ug/kg
2,4-DINITROTOLUENE	BDL	330	ug/kg
2,6-DINITROTOLUENE	BDL	330	ug/kg
DI-N-OCTYLPHTHALATE	BDL	330	ug/kg

HERITAGE LABORATORIES, INC. Lab Sample ID: A268670

Parameter	Result	Det. Limit	Units
FLUORANTHENE	BDL	330	ug/kg
FLUORENE	BDL	330	ug/kg
HEXACHLOROBENZENE	BDL	330	ug/kg
HEXACHLOROBUTADIENE	BDL	330	ug/kg
HEXACHLOROCYCLOPENTADIENE	BDL	330	ug/kg
HEXACHLOROETHANE	BDL	330	ug/kg
INDENO(1,2,3-CD)PYRENE	BDL	330	ug/kg
ISOPHORONE	BDL	330	ug/kg
2-METHYLNAPHTHALENE	BDL	330	ug/kg
NAPHTHALENE	BDL	330	ug/kg
2-NITROANILINE	BDL	1600	ug/kg
3-NITROANILINE	BDL	1600	ug/kg
4-NITROANILINE	BDL	1600	ug/kg
NITROBENZENE	BDL	330	ug/kg
N-NITROSO-DIPHENYLAMINE	BDL	330	ug/kg
N-NITROSO-DI-N-PROPYLAMINE	BDL	330	ug/kg
PHENANTHRENE	BDL	330	ug/kg
2-PICOLINE	BDL	1600	ug/kg
PYRENE	BDL	330	ug/kg
PYRIDINE	BDL	1600	ug/kg
TETRACHLOROBENZENES	BDL	330	ug/kg
TOLUENEDIAMINE	BDL	1600	ug/kg
1,2,4-TRICHLOROBENZENE	BDL	330	ug/kg
BENZOIC ACID	BDL	1600	ug/kg
4-CHLORO-3-METHYLPHENOL	BDL	330	ug/kg
2-CHLOROPHENOL	BDL	330	ug/kg
2,4-DICHLOROPHENOL	BDL	330	ug/kg
2,4-DIMETHYLPHENOL	BDL	330	ug/kg
4,6-DINITRO-2-METHYLPHENOL	BDL	1600	ug/kg
2,4-DINITROPHENOL	BDL	1600	ug/kg
2-METHYLPHENOL	BDL	330	ug/kg
4-METHYLPHENOL	BDL	330	ug/kg
2-NITROPHENOL	BDL	330	ug/kg
4-NITROPHENOL	BDL	1600	ug/kg
PENTACHLOROPHENOL	BDL	1600	ug/kg
PHENOL	BDL	330	ug/kg
TETRACHLOROPHENOL	BDL	330	ug/kg
2,4,5-TRICHLOROPHENOL	BDL	1600	ug/kg
2,4,6-TRICHLOROPHENOL	BDL	330	ug/kg
SURROGATE RECOVERY			
2-FLUOROPHENOL	61		% Rec
PHENOL-D5	90		% Rec
NITROBENZENE-D5	98		% Rec
2-FLUOROBIPHENYL	103		% Rec
2,4,6-TRIBROMOPHENOL	37		% Rec
TERPHENYL-D14	112		% Rec

Sample Comments

BDL Below Detection Limit
EST Estimated Value

mple chain of custody number 16590.

Sample Comments

RIDEM Drinking Water Certification Number C-49-01
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5656 OPPORTUNITY DRIVE, TOLEDO, OH 43612

Quality Assurance Officer: _____

CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
HERITAGE LABORATORIES, INC. 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8305	08-DEC-92	1871	A268668
	Complete	PO Number	
	11-DEC-92	29-1497	
	Printed	Sampled	
	12-DEC-92	04-DEC-92 16:55	

Report To	Bill To
STEVE KLEMM HERITAGE REMEDIATION/ENGINEERING, INC 5656 OPPORTUNITY DRIVE TOLEDO, OH 43612	STEVE SMITH HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPURTUNITY DRIVE TOLEDO, OH 43612

Sample Description

LOCATION: DUPONT AUTOMOTIVE FINISHES
SAMPLE ID: 002
SAMPLE DESCRIPTION: E-10-4 (WEST WALL)
DESCRIPTION

VOLATILE ORGANICS (HEATED PURGE & TRAP) SW846-8240

Analyst: R. SHAMP Analysis Date: 09-DEC-92 Instrument: GC/MS VOA Test: 0510.9.0

Parameter	Result	Det. Limit	Units
ACETONE	42	20	ug/kg
^CROLEIN	BDL	50	ug/kg
:RYLONITRILE	BDL	70	ug/kg
ɒENZENE	BDL	5	ug/kg
BROMODICHLOROMETHANE	BDL	5	ug/kg
BROMOFORM	BDL	5	ug/kg
BROMOMETHANE	BDL	10	ug/kg
CARBON DISULFIDE	BDL	5	ug/kg
CARBON TETRACHLORIDE	BDL	5	ug/kg
CHLOROBENZENE	BDL	5	ug/kg
CHLOROETHANE	BDL	10	ug/kg
CHLOROFORM	BDL	5	ug/kg
CHLOROMETHANE	BDL	10	ug/kg
DIBROMOCHLOROMETHANE	BDL	5	ug/kg
CIS-1,3-DICHLOROPROPENE	BDL	5	ug/kg
DICHLORODIFLUOROMETHANE	BDL	5	ug/kg
1,1-DICHLOROETHANE	BDL	5	ug/kg
1,2-DICHLOROETHANE	BDL	5	ug/kg
1,1-DICHLOROETHENE	BDL	5	ug/kg
1,2-DICHLOROPROPANE	BDL	5	ug/kg
ETHYLBENZENE	BDL	5	ug/kg
FLUOROTRICHLOROMETHANE	BDL	5	ug/kg
2-HEXANONE	BDL	10	ug/kg
METHYLENE CHLORIDE	11	5	ug/kg
METHYL ETHYL KETONE	EST 10	10	ug/kg
4-METHYL-2-PENTANONE	BDL	10	ug/kg
STYRENE	BDL	5	ug/kg
,1,2,2-TETRACHLOROETHANE	BDL	5	ug/kg
ETRACHLOROETHENE	BDL	5	ug/kg
TETRAHYDROFURAN	BDL	25	ug/kg
TOLUENE	BDL	5	ug/kg
1,2-DICHLOROETHENE (TOTAL)	BDL	5	ug/kg

Parameter	Result	Det. Limit	Units
TRANS-1,3-DICHLOROPROPENE	BDL	5	ug/kg
1,1-TRICHLOROETHANE	BDL	5	ug/kg
1,1,2-TRICHLOROETHANE	BDL	5	ug/kg
TRICHLOROETHENE	BDL	5	ug/kg
VINYL ACETATE	BDL	10	ug/kg
VINYL CHLORIDE	BDL	10	ug/kg
XYLENE (TOTAL)	BDL	5	ug/kg
SURROGATE RECOVERY			
DICHLOROETHANE-D4	105		% Rec
TOLUENE-D8	100		% Rec
BROMOFLUOROBENZENE	101		% Rec

GC/MS SONICATION EXTRACTION FOR ORGANICS SW846-3550
Analyst: M. FRANK Analysis Date: 09-DEC-92 Test: P236.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	30.0		Grams
FINAL VOLUME	1		mL

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL/ACID FRACTIONS) SW846-8270
Analyst: J. MINNIEAR, II Analysis Date: 10-DEC-92 Instrument: GC/MS SVOA Test: 0505.3.0
Prep: GC/MS SONICATION EXTRACTION FOR ORGANICS SW846-3550 P236.4.0

Parameter	Result	Det. Limit	Units
ACENAPHTHENE	BDL	330	ug/kg
ACENAPHTHYLENE	BDL	330	ug/kg
ANTHRACENE	BDL	330	ug/kg
BENZ(A)ANTHRACENE	BDL	330	ug/kg
BENZO(A)PYRENE	BDL	330	ug/kg
BENZO(B)FLUORANTHENE	BDL	330	ug/kg
BENZO(G,H,I)PERYLENE	BDL	330	ug/kg
BENZO(K)FLUORANTHENE	BDL	330	ug/kg
BENZYL ALCOHOL	BDL	330	ug/kg
BENZYLBUTYLPHTHALATE	BDL	330	ug/kg
BIS(2-CHLOROETHOXY)METHANE	BDL	330	ug/kg
BIS(2-CHLOROETHYL)ETHER	BDL	330	ug/kg
BIS(2-CHLOROISOPROPYL)ETHER	BDL	330	ug/kg
BIS(2-ETHYLHEXYL)PHTHALATE	BDL	330	ug/kg
4-BROMOPHENYLPHENYLETHER	BDL	330	ug/kg
CARBAZOLE	BDL	330	ug/kg
4-CHLOROANILINE	BDL	330	ug/kg
2-CHLORONAPHTHALENE	BDL	330	ug/kg
4-CHLOROPHENYLPHENYLETHER	BDL	330	ug/kg
CHRYSENE	BDL	330	ug/kg
DIBENZ(A,H)ANTHRACENE	BDL	330	ug/kg
DIBENZOFURAN	BDL	330	ug/kg
1,2-DICHLOROBENZENE	BDL	330	ug/kg
1,3-DICHLOROBENZENE	BDL	330	ug/kg
1,4-DICHLOROBENZENE	BDL	330	ug/kg
3,3'-DICHLOROBENZIDINE	BDL	660	ug/kg
DIETHYLPHTHALATE	BDL	330	ug/kg
DIMETHYLPHTHALATE	BDL	330	ug/kg
DI-N-BUTYLPHTHALATE	BDL	330	ug/kg
DINITROBENZENES	BDL	330	ug/kg
2,4-DINITROTOLUENE	BDL	330	ug/kg
2,6-DINITROTOLUENE	BDL	330	ug/kg
DI-N-OCTYLPHTHALATE	BDL	330	ug/kg

HERITAGE LABORATORIES, INC. Lab Sample ID: A268671

Parameter	Result	Det. Limit	Units
LUORANTHENE	BDL	330	ug/kg
UORENE	BDL	330	ug/kg
HEXACHLOROBENZENE	BDL	330	ug/kg
HEXACHLOROBUTADIENE	BDL	330	ug/kg
HEXACHLOROCYCLOPENTADIENE	BDL	330	ug/kg
HEXACHLOROETHANE	BDL	330	ug/kg
INDENO(1,2,3-CD)PYRENE	BDL	330	ug/kg
ISOPHORONE	BDL	330	ug/kg
2-METHYLNAPHTHALENE	BDL	330	ug/kg
NAPHTHALENE	BDL	330	ug/kg
2-NITROANILINE	BDL	1600	ug/kg
3-NITROANILINE	BDL	1600	ug/kg
4-NITROANILINE	BDL	1600	ug/kg
NITROBENZENE	BDL	330	ug/kg
N-NITROSO-DIPHENYLAMINE	BDL	330	ug/kg
N-NITROSO-DI-N-PROPYLAMINE	BDL	330	ug/kg
PHENANTHRENE	BDL	330	ug/kg
2-PICOLINE	BDL	1600	ug/kg
PYRENE	BDL	330	ug/kg
PYRIDINE	BDL	1600	ug/kg
TETRACHLOROBENZENES	BDL	330	ug/kg
TOLUENEDIAMINE	BDL	1600	ug/kg
1,2,4-TRICHLOROBENZENE	BDL	330	ug/kg
BENZOIC ACID	BDL	1600	ug/kg
4-CHLORO-3-METHYLPHENOL	BDL	330	ug/kg
2-CHLOROPHENOL	BDL	330	ug/kg
4-DICHLOROPHENOL	BDL	330	ug/kg
,4-DIMETHYLPHENOL	BDL	330	ug/kg
4,6-DINITRO-2-METHYLPHENOL	BDL	1600	ug/kg
2,4-DINITROPHENOL	BDL	1600	ug/kg
2-METHYLPHENOL	BDL	330	ug/kg
4-METHYLPHENOL	BDL	330	ug/kg
2-NITROPHENOL	BDL	330	ug/kg
4-NITROPHENOL	BDL	1600	ug/kg
PENTACHLOROPHENOL	BDL	1600	ug/kg
PHENOL	BDL	330	ug/kg
TETRACHLOROPHENOL	BDL	330	ug/kg
2,4,5-TRICHLOROPHENOL	BDL	1600	ug/kg
2,4,6-TRICHLOROPHENOL	BDL	330	ug/kg
SURROGATE RECOVERY			
2-FLUOROPHENOL	61		% Rec
PHENOL-D5	87		% Rec
NITROBENZENE-D5	100		% Rec
2-FLUOROBIPHENYL	104		% Rec
2,4,6-TRIBROMOPHENOL	43		% Rec
TERPHENYL-D14	150		% Rec

Sample Comments

BDL Below Detection Limit

ample chain of custody number 16590.

IDEM Drinking Water Certification Number C-49-01

Sample Comments

Additional copies of this report sent to:
JOE RITCHIE, HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPORTUNITY DRIVE, TOLEDO, OH 43612

Quality Assurance Officer: _____

CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
HERITAGE LABORATORIES, INC. 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8305	08-DEC-92	1871	A268667
	Complete: 11-DEC-92	PO Number: 29-1497	
	Printed: 12-DEC-92	Sampled: 04-DEC-92 16:50	

Report To

STEVE KLEMM
HERITAGE REMEDIATION/ENGINEERING, INC
5656 OPPORTUNITY DRIVE
TOLEDO, OH 43612

Bill To

STEVE SMITH
HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPURTUNITY DRIVE
TOLEDO, OH 43612

Sample Description

LOCATION: DUPONT AUTOMOTIVE FINISHES
SAMPLE ID: 001
SAMPLE DESCRIPTION: C-0-2 (SOUTH WALL)
DESCRIPTION

DEC 16 RECD

VOLATILE ORGANICS (HEATED PURGE & TRAP) SW846-8240

Analyst: R. SHAMP Analysis Date: 10-DEC-92 Instrument: GC/MS VOA Test: 0510.9.0

Parameter	Result	Det. Limit	Units
ACETONE	70	20	ug/kg
ACROLEIN	BDL	50	ug/kg
ACRYLONITRILE	BDL	70	ug/kg
BENZENE	BDL	5	ug/kg
BROMODICHLOROMETHANE	BDL	5	ug/kg
BROMOFORM	BDL	5	ug/kg
BROMOMETHANE	BDL	10	ug/kg
CARBON DISULFIDE	BDL	5	ug/kg
CARBON TETRACHLORIDE	BDL	5	ug/kg
CHLOROBENZENE	BDL	5	ug/kg
CHLOROETHANE	BDL	10	ug/kg
CHLOROFORM	BDL	5	ug/kg
CHLOROMETHANE	BDL	10	ug/kg
DIBROMOCHLOROMETHANE	BDL	5	ug/kg
CIS-1,3-DICHLOROPROPENE	BDL	5	ug/kg
DICHLORODIFLUOROMETHANE	BDL	5	ug/kg
1,1-DICHLOROETHANE	BDL	5	ug/kg
1,2-DICHLOROETHANE	BDL	5	ug/kg
1,1-DICHLOROETHENE	BDL	5	ug/kg
1,2-DICHLOROPROPANE	BDL	5	ug/kg
ETHYLBENZENE	BDL	5	ug/kg
FLUOROTRICHLOROMETHANE	BDL	5	ug/kg
2-HEXANONE	BDL	10	ug/kg
METHYLENE CHLORIDE	9	5	ug/kg
METHYL ETHYL KETONE	22	10	ug/kg
4-METHYL-2-PENTANONE	BDL	10	ug/kg
STYRENE	BDL	5	ug/kg
1,2,2-TETRACHLOROETHANE	BDL	5	ug/kg
TRACHLOROETHENE	BDL	5	ug/kg
TETRAHYDROFURAN	BDL	25	ug/kg
TOLUENE	12	5	ug/kg
1,2-DICHLOROETHENE (TOTAL)	BDL	5	ug/kg

Parameter	Result	Det. Limit	Units
TRANS-1,3-DICHLOROPROPENE	BDL	5	ug/kg
1,1,1-TRICHLOROETHANE	BDL	5	ug/kg
1,1,2-TRICHLOROETHANE	BDL	5	ug/kg
TRICHLOROETHENE	BDL	5	ug/kg
VINYL ACETATE	BDL	10	ug/kg
VINYL CHLORIDE	BDL	10	ug/kg
XYLENE (TOTAL)	BDL	5	ug/kg
SURROGATE RECOVERY			
DICHLOROETHANE-D4	102		% Rec
TOLUENE-D8	100		% Rec
BROMOFLUOROBENZENE	102		% Rec

GC/MS SONICATION EXTRACTION FOR ORGANICS SW846-3550

Analyst: M. FRANK Analysis Date: 09-DEC-92 Test: P236.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	30.0		Grams
FINAL VOLUME	1		mL

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL/ACID FRACTIONS) SW846-8270

Analyst: J. MINNIEAR, II Analysis Date: 10-DEC-92 Instrument: GC/MS SVOA Test: 0505.3.0

Prep: GC/MS SONICATION EXTRACTION FOR ORGANICS SW846-3550 P236.4.0

Parameter	Result	Det. Limit	Units
ACENAPHTHENE	BDL	330	ug/kg
ACENAPHTHYLENE	BDL	330	ug/kg
ANTHRACENE	BDL	330	ug/kg
BENZ(A)ANTHRACENE	BDL	330	ug/kg
BENZO(A)PYRENE	BDL	330	ug/kg
BENZO(B)FLUORANTHENE	BDL	330	ug/kg
BENZO(G,H,I)PERYLENE	BDL	330	ug/kg
BENZO(K)FLUORANTHENE	BDL	330	ug/kg
BENZYL ALCOHOL	BDL	330	ug/kg
BENZYLBUTYLPHTHALATE	BDL	330	ug/kg
BIS(2-CHLOROETHOXY)METHANE	BDL	330	ug/kg
BIS(2-CHLOROETHYL)ETHER	BDL	330	ug/kg
BIS(2-CHLOROISOPROPYL)ETHER	BDL	330	ug/kg
BIS(2-ETHYLHEXYL)PHTHALATE	BDL	330	ug/kg
4-BROMOPHENYLPHENYLETHER	BDL	330	ug/kg
CARBAZOLE	BDL	330	ug/kg
4-CHLOROANILINE	BDL	330	ug/kg
2-CHLORONAPHTHALENE	BDL	330	ug/kg
4-CHLOROPHENYLPHENYLETHER	BDL	330	ug/kg
CHRYSENE	BDL	330	ug/kg
DIBENZ(A,H)ANTHRACENE	BDL	330	ug/kg
DIBENZOFURAN	BDL	330	ug/kg
1,2-DICHLOROBENZENE	BDL	330	ug/kg
1,3-DICHLOROBENZENE	BDL	330	ug/kg
1,4-DICHLOROBENZENE	BDL	330	ug/kg
3,3'-DICHLOROBENZIDINE	BDL	660	ug/kg
DIETHYLPHTHALATE	BDL	330	ug/kg
DIMETHYLPHTHALATE	BDL	330	ug/kg
DI-N-BUTYLPHTHALATE	BDL	330	ug/kg
DINITROBENZENES	BDL	330	ug/kg
2,4-DINITROTOLUENE	BDL	330	ug/kg
2,6-DINITROTOLUENE	BDL	330	ug/kg
DI-N-OCTYLPHTHALATE	BDL	330	ug/kg

HERITAGE LABORATORIES, INC. Lab Sample ID: A268672

Parameter	Result	Det. Limit	Units
LUORANTHENE	BDL	330	ug/kg
.UORENE	BDL	330	ug/kg
HEXACHLOROBENZENE	BDL	330	ug/kg
HEXACHLOROBUTADIENE	BDL	330	ug/kg
HEXACHLOROCYCLOPENTADIENE	BDL	330	ug/kg
HEXACHLOROETHANE	BDL	330	ug/kg
INDENO(1,2,3-CD)PYRENE	BDL	330	ug/kg
ISOPHORONE	BDL	330	ug/kg
2-METHYLNAPHTHALENE	BDL	330	ug/kg
NAPHTHALENE	BDL	330	ug/kg
2-NITROANILINE	BDL	1600	ug/kg
3-NITROANILINE	BDL	1600	ug/kg
4-NITROANILINE	BDL	1600	ug/kg
NITROBENZENE	BDL	330	ug/kg
N-NITROSO-DIPHENYLAMINE	BDL	330	ug/kg
N-NITROSO-DI-N-PROPYLAMINE	BDL	330	ug/kg
PHENANTHRENE	BDL	330	ug/kg
2-PICOLINE	BDL	1600	ug/kg
PYRENE	BDL	330	ug/kg
PYRIDINE	BDL	1600	ug/kg
TETRACHLOROBENZENES	BDL	330	ug/kg
TOLUENEDIAMINE	BDL	1600	ug/kg
1,2,4-TRICHLOROBENZENE	BDL	330	ug/kg
BENZOIC ACID	BDL	1600	ug/kg
4-CHLORO-3-METHYLPHENOL	BDL	330	ug/kg
2-CHLOROPHENOL	BDL	330	ug/kg
4-DICHLOROPHENOL	BDL	330	ug/kg
,4-DIMETHYLPHENOL	BDL	330	ug/kg
4,6-DINITRO-2-METHYLPHENOL	BDL	1600	ug/kg
2,4-DINITROPHENOL	BDL	1600	ug/kg
2-METHYLPHENOL	BDL	330	ug/kg
4-METHYLPHENOL	BDL	330	ug/kg
2-NITROPHENOL	BDL	330	ug/kg
4-NITROPHENOL	BDL	1600	ug/kg
PENTACHLOROPHENOL	BDL	1600	ug/kg
PHENOL	BDL	330	ug/kg
TETRACHLOROPHENOL	BDL	330	ug/kg
2,4,5-TRICHLOROPHENOL	BDL	1600	ug/kg
2,4,6-TRICHLOROPHENOL	BDL	330	ug/kg
SURROGATE RECOVERY			
2-FLUOROPHENOL	74		% Rec
PHENOL-D5	86		% Rec
NITROBENZENE-D5	87		% Rec
2-FLUOROBIPHENYL	90		% Rec
2,4,6-TRIBROMOPHENOL	73		% Rec
TERPHENYL-D14	128		% Rec

Sample Comments

BDL Below Detection Limit

mple chain of custody number 16590.

IDEM Drinking Water Certification Number C-49-01

Sample Comments

Additional copies of this report sent to:
JOE RITCHIE, HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPORTUNITY DRIVE, TOLEDO, OH 43612

Quality Assurance Officer: _____

CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
HERITAGE LABORATORIES, INC.)01 W. MORRIS ST. ..IDIANAPOLIS, IN 46231 (317)243-8305	08-DEC-92	1871	A268673
	Complete	PO Number	
	15-DEC-92	29-1497	
	Printed	Sampled	
	16-DEC-92	04-DEC-92 17:40	

Report To

STEVE KLEMM
HERITAGE REMEDIATION/ENGINEERING, INC
5656 OPPORTUNITY DRIVE
TOLEDO, OH 43612

Bill To

STEVE SMITH
HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPURTUNITY DRIVE
TOLEDO, OH 43612

Sample Description

LOCATION: DUPONT AUTOMOTIVE FINISHES
SAMPLE ID: 007
SAMPLE DESCRIPTION: WATER IN EXCAVATION
DESCRIPTION

VOLATILE ORGANICS SW846-8240

Analyst: B. SHARP   Analysis Date: 09-DEC-92   Instrument: GC/MS VOA   Test: 0510.3.0

Parameter	Result	Det. Limit	Units
ACETONE	BDL	20	ug/L
ACROLEIN	BDL	50	ug/L
RYLONITRILE	BDL	70	ug/L
NZENE	BDL	5	ug/L
BROMODICHLOROMETHANE	BDL	5	ug/L
BROMOFORM	BDL	5	ug/L
BROMOMETHANE	BDL	10	ug/L
CARBON DISULFIDE	BDL	5	ug/L
CARBON TETRACHLORIDE	BDL	5	ug/L
CHLOROBENZENE	BDL	5	ug/L
CHLOROETHANE	BDL	10	ug/L
CHLOROFORM	BDL	5	ug/L
CHLOROMETHANE	BDL	10	ug/L
DIBROMOCHLOROMETHANE	BDL	5	ug/L
CIS-1,3-DICHLOROPROPENE	BDL	5	ug/L
DICHLORODIFLUOROMETHANE	BDL	5	ug/L
1,1-DICHLOROETHANE	BDL	5	ug/L
1,2-DICHLOROETHANE	BDL	5	ug/L
1,1-DICHLOROETHENE	BDL	5	ug/L
1,2-DICHLOROPROPANE	BDL	5	ug/L
ETHYLBENZENE	26	5	ug/L
FLUOROTRICHLOROMETHANE	BDL	5	ug/L
2-HEXANONE	BDL	10	ug/L
METHYLENE CHLORIDE	BDL	5	ug/L
METHYL ETHYL KETONE	BDL	10	ug/L
4-METHYL-2-PENTANONE	BDL	10	ug/L
STYRENE	BDL	5	ug/L
·,1,2,2-TETRACHLOROETHANE	BDL	5	ug/L
:TRACHLOROETHENE	BDL	5	ug/L
.ETRAHYDROFURAN	BDL	25	ug/L
TOLUENE	BDL	5	ug/L
1,2-DICHLOROETHENE (TOTAL)	BDL	5	ug/L

Parameter	Result	Det. Limit	Units
TRANS-1,3-DICHLOROPROPENE	BDL	5	ug/L
1,1-TRICHLOROETHANE	BDL	5	ug/L
1,2-TRICHLOROETHANE	BDL	5	ug/L
...ICHLOROETHENE	BDL	5	ug/L
VINYL ACETATE	BDL	10	ug/L
VINYL CHLORIDE	BDL	10	ug/L
XYLENE (TOTAL)	190	5	ug/L
SURROGATE RECOVERY			
DICHLOROETHANE-D4	100		% Rec
TOLUENE-D8	102		% Rec
BROMOFLUOROBENZENE	106		% Rec

PH=6

GC/MS-SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510

Analyst: W. WHITE Analysis Date: 09-DEC-92 Test: P233:4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	1000		mL
FINAL VOLUME	1		mL

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL/ACID FRACTIONS) SW846-8270

Analyst: S. HUGHES Analysis Date: 11-DEC-92 Instrument: GC/MS FINN Test: OSOS-3.0

Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510 P233:4.0

Parameter	Result	Det. Limit	Units
ACENAPHTHENE	BDL	10	ug/L
ENAPHTHYLENE	BDL	10	ug/L
THRACENE	BDL	10	ug/L
BENZ(A)ANTHRACENE	BDL	10	ug/L
BENZO(A)PYRENE	BDL	10	ug/L
BENZO(B)FLUORANTHENE	BDL	10	ug/L
BENZO(G,H,I)PERYLENE	BDL	10	ug/L
BENZO(K)FLUORANTHENE	BDL	10	ug/L
BENZYL ALCOHOL	BDL	10	ug/L
BENZYLBUTYLPHTHALATE	BDL	10	ug/L
BIS(2-CHLOROETHOXY)METHANE	BDL	10	ug/L
BIS(2-CHLOROETHYL)ETHER	BDL	10	ug/L
BIS(2-CHLOROISOPROPYL)ETHER	BDL	10	ug/L
BIS(2-ETHYLHEXYL)PHTHALATE	BDL	10	ug/L
4-BROMOPHENYLPHENYLETHER	BDL	10	ug/L
CARBAZOLE	BDL	10	ug/L
4-CHLOROANILINE	BDL	10	ug/L
2-CHLORONAPHTHALENE	BDL	10	ug/L
4-CHLOROPHENYLPHENYLETHER	BDL	10	ug/L
CHRYSENE	BDL	10	ug/L
DIBENZ(A,H)ANTHRACENE	BDL	10	ug/L
DIBENZOFURAN	BDL	10	ug/L
1,2-DICHLOROBENZENE	BDL	10	ug/L
1,3-DICHLOROBENZENE	BDL	10	ug/L
1,4-DICHLOROBENZENE	BDL	10	ug/L
3,3'-DICHLOROBENZIDINE	BDL	20	ug/L
DIETHYLPHTHALATE	BDL	10	ug/L
METHYLPHTHALATE	BDL	10	ug/L
DI-N-BUTYLPHTHALATE	BDL	10	ug/L
DINITROBENZENES	BDL	50	ug/L
2,4-DINITROTOLUENE	BDL	10	ug/L

HERITAGE LABORATORIES, INC. Lab Sample ID: A268673

Parameter	Result	Det. Limit	Units
2,6-DINITROTOLUENE	BDL	10	ug/L
**-N-OCTYLPHTHALATE	BDL	10	ug/L
UORANTHENE	BDL	10	ug/L
..UORENE	BDL	10	ug/L
HEXACHLOROBENZENE	BDL	10	ug/L
HEXACHLOROBUTADIENE	BDL	10	ug/L
HEXACHLOROCYCLOPENTADIENE	BDL	10	ug/L
HEXACHLOROETHANE	BDL	10	ug/L
INDENO(1,2,3-CD)PYRENE	BDL	10	ug/L
ISOPHORONE	BDL	10	ug/L
2-METHYLNAPHTHALENE	BDL	10	ug/L
NAPHTHALENE	BDL	10	ug/L
2-NITROANILINE	BDL	50	ug/L
3-NITROANILINE	BDL	50	ug/L
4-NITROANILINE	BDL	50	ug/L
NITROBENZENE	BDL	10	ug/L
N-NITROSO-DIPHENYLAMINE	BDL	10	ug/L
N-NITROSO-DI-N-PROPYLAMINE	BDL	10	ug/L
PHENANTHRENE	BDL	10	ug/L
2-PICOLINE	BDL	50	ug/L
PYRENE	BDL	10	ug/L
PYRIDINE	BDL	50	ug/L
TETRACHLOROBENZENES	BDL	10	ug/L
TOLUENEDIAMINE	BDL	50	ug/L
1,2,4-TRICHLOROBENZENE	BDL	10	ug/L
BENZOIC ACID	BDL	50	ug/L
4-CHLORO-3-METHYLPHENOL	BDL	10	ug/L
HLOROPHENOL	BDL	10	ug/L
4-DICHLOROPHENOL	BDL	10	ug/L
2,4-DIMETHYLPHENOL	BDL	10	ug/L
4,6-DINITRO-2-METHYLPHENOL	BDL	50	ug/L
2,4-DINITROPHENOL	BDL	50	ug/L
2-METHYLPHENOL	BDL	10	ug/L
4-METHYLPHENOL	BDL	10	ug/L
2-NITROPHENOL	BDL	10	ug/L
4-NITROPHENOL	BDL	50	ug/L
PENTACHLOROPHENOL	BDL	50	ug/L
PHENOL	BDL	10	ug/L
TETRACHLOROPHENOL	BDL	10	ug/L
2,4,5-TRICHLOROPHENOL	BDL	50	ug/L
2,4,6-TRICHLOROPHENOL	BDL	10	ug/L
SURROGATE RECOVERY			
2-FLUOROPHENOL	58		% Rec
PHENOL-D5	40		% Rec
NITROBENZENE-D5	112		% Rec
2-FLUOROBIPHENYL	111		% Rec
2,4,6-TRIBROMOPHENOL	82		% Rec
TERPHENYL-D14	139		% Rec

Sample Comments

--- *Below Detection Limit*

Sample chain of custody number 16590.

Sample Comments

IDEM Drinking Water Certification Number C-49-01
This Certificate shall not be reproduced, except in full,
without the written approval of the lab.

Additional copies of this report sent to:
JOE RITCHIE, HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPORTUNITY DRIVE, TOLEDO, OH 43612

Quality Assurance Officer: _____

CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
ERITAGE LABORATORIES, INC. 901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8305	08-DEC-92	1871	A268674
	Complete	PO Number	
	15-DEC-92	29-1497	
	Printed	Sampled	
	16-DEC-92	04-DEC-92 17:50	

Report To

STEVE KLEMM
HERITAGE REMEDIATION/ENGINEERING, INC
5656 OPPORTUNITY DRIVE
TOLEDO, OH 43612

Bill To

STEVE SMITH
HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPURTUNITY DRIVE
TOLEDO, OH 43612

Sample Description

LOCATION: DUPONT AUTOMOTIVE FINISHES
SAMPLE ID: 008
SAMPLE DESCRIPTION: TRIP BLANK
DESCRIPTION

VOLATILE ORGANICS SW846-8240

Analyst: K. SHAW Analysis Date: 09-DEC-92 Instrument: HEAD-GC Test: 0510.3.0

Parameter	Result	Det. Limit	Units
ACETONE	BDL	20	ug/L
CROLEIN	BDL	50	ug/L
RYLONITRILE	BDL	70	ug/L
ENZENE	BDL	5	ug/L
BROMODICHLOROMETHANE	BDL	5	ug/L
BROMOFORM	BDL	5	ug/L
BROMOMETHANE	BDL	10	ug/L
CARBON DISULFIDE	BDL	5	ug/L
CARBON TETRACHLORIDE	BDL	5	ug/L
CHLOROBENZENE	BDL	5	ug/L
CHLOROETHANE	BDL	10	ug/L
CHLOROFORM	BDL	5	ug/L
CHLOROMETHANE	BDL	10	ug/L
DIBROMOCHLOROMETHANE	BDL	5	ug/L
CIS-1,3-DICHLOROPROPENE	BDL	5	ug/L
DICHLORODIFLUOROMETHANE	BDL	5	ug/L
1,1-DICHLOROETHANE	BDL	5	ug/L
1,2-DICHLOROETHANE	BDL	5	ug/L
1,1-DICHLOROETHENE	BDL	5	ug/L
1,2-DICHLOROPROPANE	BDL	5	ug/L
ETHYLBENZENE	BDL	5	ug/L
FLUOROTRICHLOROMETHANE	BDL	5	ug/L
2-HEXANONE	BDL	10	ug/L
METHYLENE CHLORIDE	BDL	5	ug/L
METHYL ETHYL KETONE	BDL	10	ug/L
4-METHYL-2-PENTANONE	BDL	10	ug/L
STYRENE	BDL	5	ug/L
,1,2,2-TETRACHLOROETHANE	BDL	5	ug/L
ETRACHLOROETHENE	BDL	5	ug/L
TETRAHYDROFURAN	BDL	25	ug/L
TOLUENE	BDL	5	ug/L
1,2-DICHLOROETHENE (TOTAL)	BDL	5	ug/L

HERITAGE LABORATORIES, INC. Lab Sample ID: A268674

Parameter	Result	Det. Limit	Units
TRANS-1,3-DICHLOROPROPENE	BDL	5	ug/L
,1,1-TRICHLOROETHANE	BDL	5	ug/L
,1,2-TRICHLOROETHANE	BDL	5	ug/L
TRICHLOROETHENE	BDL	5	ug/L
VINYL ACETATE	BDL	10	ug/L
VINYL CHLORIDE	BDL	10	ug/L
XYLENE (TOTAL)	BDL	5	ug/L
SURROGATE RECOVERY			
DICHLOROETHANE-D4	100		% Rec
TOLUENE-D8	98		% Rec
BROMOFLUOROBENZENE	105		% Rec

GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510

Analyst: M. WHITE Analysis Date: 09-DEC-92 Test: P233,4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	1000		mL
FINAL VOLUME	1		mL

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL/ACID FRACTIONS) SW846-8270

Analyst: G. [illegible] Analysis Date: 11-DEC-92 Instrument: GC/MS SVOA Test: 0505,3.0

Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510 P233,4.0

Parameter	Result	Det. Limit	Units
ACENAPHTHENE	BDL	10	ug/L
ACENAPHTHYLENE	BDL	10	ug/L
ANTHRACENE	BDL	10	ug/L
NZ(A)ANTHRACENE	BDL	10	ug/L
..NZO(A)PYRENE	BDL	10	ug/L
BENZO(B)FLUORANTHENE	BDL	10	ug/L
BENZO(G,H,I)PERYLENE	BDL	10	ug/L
BENZO(K)FLUORANTHENE	BDL	10	ug/L
BENZYL ALCOHOL	BDL	10	ug/L
BENZYLBUTYLPHTHALATE	BDL	10	ug/L
BIS(2-CHLOROETHOXY)METHANE	BDL	10	ug/L
BIS(2-CHLOROETHYL)ETHER	BDL	10	ug/L
BIS(2-CHLOROISOPROPYL)ETHER	BDL	10	ug/L
BIS(2-ETHYLHEXYL)PHTHALATE	BDL	10	ug/L
4-BROMOPHENYLPHENYLETHER	BDL	10	ug/L
CARBAZOLE	BDL	10	ug/L
4-CHLOROANILINE	BDL	10	ug/L
2-CHLORONAPHTHALENE	BDL	10	ug/L
4-CHLOROPHENYLPHENYLETHER	BDL	10	ug/L
CHRYSENE	BDL	10	ug/L
DIBENZ(A,H)ANTHRACENE	BDL	10	ug/L
DIBENZOFURAN	BDL	10	ug/L
1,2-DICHLOROBENZENE	BDL	10	ug/L
1,3-DICHLOROBENZENE	BDL	10	ug/L
1,4-DICHLOROBENZENE	BDL	10	ug/L
3,3'-DICHLOROBENZIDINE	BDL	20	ug/L
DIETHYLPHTHALATE	BDL	10	ug/L
DIMETHYLPHTHALATE	BDL	10	ug/L
-N-BUTYLPHTHALATE	BDL	10	ug/L
NITROBENZENES	BDL	50	ug/L
2,4-DINITROTOLUENE	BDL	10	ug/L
2,6-DINITROTOLUENE	BDL	10	ug/L
DI-N-OCTYLPHTHALATE	BDL	10	ug/L

HERITAGE LABORATORIES, INC. Lab Sample ID: A268674

Parameter	Result	Det. Limit	Units
FLUORANTHENE	BDL	10	ug/L
FLUORENE	BDL	10	ug/L
HEXACHLOROBENZENE	BDL	10	ug/L
HEXACHLOROBUTADIENE	BDL	10	ug/L
HEXACHLOROCYCLOPENTADIENE	BDL	10	ug/L
HEXACHLOROETHANE	BDL	10	ug/L
INDENO(1,2,3-CD)PYRENE	BDL	10	ug/L
ISOPHORONE	BDL	10	ug/L
2-METHYLNAPHTHALENE	BDL	10	ug/L
NAPHTHALENE	BDL	10	ug/L
2-NITROANILINE	BDL	50	ug/L
3-NITROANILINE	BDL	50	ug/L
4-NITROANILINE	BDL	50	ug/L
NITROBENZENE	BDL	10	ug/L
N-NITROSO-DIPHENYLAMINE	BDL	10	ug/L
N-NITROSO-DI-N-PROPYLAMINE	BDL	10	ug/L
PHENANTHRENE	BDL	10	ug/L
2-PICOLINE	BDL	50	ug/L
PYRENE	BDL	10	ug/L
PYRIDINE	BDL	50	ug/L
TETRACHLOROBENZENES	BDL	10	ug/L
TOLUENEDIAMINE	BDL	50	ug/L
1,2,4-TRICHLOROBENZENE	BDL	10	ug/L
BENZOIC ACID	BDL	50	ug/L
4-CHLORO-3-METHYLPHENOL	BDL	10	ug/L
2-CHLOROPHENOL	BDL	10	ug/L
2,4-DICHLOROPHENOL	BDL	10	ug/L
2,4-DIMETHYLPHENOL	BDL	10	ug/L
4,6-DINITRO-2-METHYLPHENOL	BDL	50	ug/L
2,4-DINITROPHENOL	BDL	50	ug/L
2-METHYLPHENOL	BDL	10	ug/L
4-METHYLPHENOL	BDL	10	ug/L
2-NITROPHENOL	BDL	10	ug/L
4-NITROPHENOL	BDL	50	ug/L
PENTACHLOROPHENOL	BDL	50	ug/L
PHENOL	BDL	10	ug/L
TETRACHLOROPHENOL	BDL	10	ug/L
2,4,5-TRICHLOROPHENOL	BDL	50	ug/L
2,4,6-TRICHLOROPHENOL	BDL	10	ug/L
SURROGATE RECOVERY			
2-FLUOROPHENOL	80		% Rec
PHENOL-D5	48		% Rec
NITROBENZENE-D5	112		% Rec
2-FLUOROBIPHENYL	107		% Rec
2,4,6-TRIBROMOPHENOL	110		% Rec
TERPHENYL-D14	136		% Rec

Sample Comments

BDL Below Detection Limit

ample chain of custody number 16590.

IDEM Drinking Water Certification Number C-49-01

Sample Comments

This Certificate shall not be reproduced, except in full, without the written approval of the lab.

Additional copies of this report sent to:
JOE RITCHIE, HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPORTUNITY DRIVE, TOLEDO, OH 43612

Quality Assurance Officer: G W Busch

WASTE STORAGE TANK
CLOSURE REPORT
TANK # W-1
E.I. DUPONT DE NEMOURS & CO.
TOLEDO AP PLANT

PREPARED FOR:

E.I. DUPONT DE NEMOURS & CO.
TOLEDO AP PLANT
1930 TREMAINSVILLE ROAD
TOLEDO, OHIO 43613
419-478-1211

PREPARED BY:

HERITAGE ENVIRONMENTAL SERVICES, INC.
5656 OPPORTUNITY DRIVE
TOLEDO OH 43612-2922

April 18, 1995

HAZARDOUS WASTE

WASTE STORAGE TANK

CLOSURE REPORT

TANK # W-1

E.I. DUPONT DE NEMOURS & CO.

TOLEDO AP PLANT

PREPARED FOR:

E.I. duPont de Nemours & Co.
Toledo AP Plant
1930 Tremainsville Road
Toledo, Ohio 43613

PREPARED BY:

Heritage Environmental Services, Inc.
5656 Opportunity Drive
Toledo, Ohio 43612-2922

April 18, 1995

WASTE STORAGE TANK
CLOSURE REPORT
TANK # W-1
E.I. DUPONT DE NEMOURS & CO.
TOLEDO AP PLANT

PREPARED FOR:

E.I. DUPONT DE NEMOURS & CO.
TOLEDO AP PLANT
1930 TREMAINSVILLE ROAD
TOLEDO, OHIO 43613
419-478-1211

PREPARED BY:

HERITAGE ENVIRONMENTAL SERVICES, INC.
5656 OPPORTUNITY DRIVE
TOLEDO OH 43612-2922

April 18, 1995

WASTE STORAGE TANK
CLOSURE REPORT FOR TANK # W-1

E.I. DUPONT DE NEMOURS & CO.
TOLEDO AP PLANT
1930 TREMAINSVILLE ROAD
TOLEDO, OH 43613

TABLE OF CONTENTS

1.0 INTRODUCTION

1.1 Closure Plan

The activities described herein were conducted in accordance with generally accepted industry standards of closure for tanks once containing hazardous wastes. The "clean" standards used for this project were referenced in the site closure plan which describes closure activities for all of the Toledo Automotive Plant areas. The tank referenced in this report was not specifically mentioned in that plan. No attempt was made to evaluate or clean the containment barrier wall or flooring surrounding Tank W-1.

1.2 FACILITY DESCRIPTION

The E. I. duPont de Nemours & Co., Inc. facility (DUPONT) manufactured automotive paints and resins. These processes or activities generate various wastes as described in Section 3.0 of the Hazardous Waste Storage Facility Part B Closure Plan dated May 19, 1992. The facility is located in Toledo, Lucas County, Ohio and is bordered by Harris Street and Jackman Rd. to the east, Tremainsville Rd. to the south, and railroad tracks to the west and north (See Figure 1). The Facility is approximately 17 acres in size.

1.3 TANK # W-1 AND SECONDARY CONTAINMENT DESCRIPTION

Tank # W-1 was cylindrical with a cone-shaped bottom and dome shaped top. It was constructed in 1988 of carbon steel which is approximately 3/16" thick on the sides and on the top. The sides are 80" tall, and the tank is 56" in diameter. The tank was operated at atmospheric pressure, and was vented through a conservation/flame arrestor vent.

The tank had four angle-iron legs, each 2.5 feet long. The legs were mounted on the concrete floor of the containment area. The tank was located inside its own dike with poured concrete walls and floor, which had a capacity of approximately 1,200 gallons.

Prior to closure the tank was used to store dirty wash solvent from equipment cleaning processes in the paint manufacturing area.

2. CLOSURE ACTIVITIES

2.1 TANK # W-1 DECONTAMINATION AND DEMOLITION

On February 6, 1995, Heritage employees used in this project who had not been previously certified by DUPONT's safety department participated in DUPONT's contractor safety program. The following sections describe the decontamination procedures followed for the closure of the tank.

2.1.1 Tank # W-1 Decontamination

On February 6, 1995, following safety training, Heritage personnel set up plastic around the tank and containment area. All inflow lines to the tank were disconnected and blanked according to DUPONT safety procedures. The tank manway was removed and the tank was force vented using a pneumatic air blower/evacuator connected to the vent stack. The tank atmosphere was tested using a LEL/O_2 meter and solids were shoveled from the tank. The solids were placed into a 55 gallon open top drum. One drum of solids was generated during this process. Initial power wash was conducted from outside of the tank (without entry) and an additional 1.5 drums of rinseate was produced.

On February 7, 1995, Heritage personnel following both Heritage and DUPONT confined space permit procedures entered the tank and completed three pressure wash rinses of the tank interior. Plant tap water was used as the source of rinse water for this project. An additional 6.5 drums of rinseate was produced from the day's activities for a total of 8 drums of rinseate and 1 drum of solids from this tank.

Rinseate from the third rinse was collected in the tank bottom and sampled prior to removal from the tank. The sample was collected in four 1-liter sample jars equipped with teflon septa, sealed, placed on ice, and immediately hand delivered to Jones and Henry Laboratory in Northwood, Ohio. A sample of the "source" tap water was taken from the spigot, collected in appropriate containers, sealed, and delivered in the same manner at the same time.

2.1.2 Tank W-1 Demolition

On March 31, 1995, following review of rinseate analytical results, HERITAGE personnel removed the tank from the containment area after first removing the support legs. The tank was transported to a storage area outside of the building on DUPONT property and rendered useless by using a cutting torch to cut 2 X 2 foot holes in either end of the tank.

2.2 DETAILS OF SAMPLING AND ANALYSIS

On February 7, 1995 HERITAGE personnel collected samples of rinseate water from the third rinse of the tank. The following section describes the details of sample collection and analyses.

2.2.1 Sampling and Analysis Rinseate From Tank # W-1

On February 7, 1995, following the third pressure washing, a sample was taken of the rinseate by closing the bottom valve on the tank drain and allowing rinse water to pool in the tank bottom. The water was then collected into four 1 liter laboratory sample jars. A sample was also collected of the plant tap water directly from the spigot. This sample was labeled "source water (tap)". Sampling was performed by Mr. Scott Mills of Heritage. Samples were labeled and placed in a cooler containing ice. The samples were hand delivered to Jones and Henry Laboratory in Northwood, Ohio.

The tank rinseate sample was sent for TCLP volatiles, TCLP semi-volatiles and TCLP metals (10) and was given the laboratory designation of AC33949. The source water was tested for purgeable halocarbons, purgeable aromatics, semivolatiles and 10 total metals and was given the laboratory designation AC33950. All laboratory methodologies are provided in table 1.

2.3 SUMMARY OF ANALYTICAL RESULTS

The closure plan stipulated that the final rinseates must meet or exceed:

- Fifteen times the public drinking water MCL for hazardous waste constituents.
- If an MCL is not available for a particular contaminant, then fifteen times the MCLG.
- If a product of fifteen time the MCL or MCLG exceeds 1 mg/liter or if neither an MCL or MCLG is available for a particular contaminant, 1 mg/liter shall be used as the clean standard.

The analytical results from tank rinseate are summarized in Table 2. Also included are the clean standards as determined from the approved site closure plan and federal maximum contaminant levels (MCLs). In summary, both organic compounds and inorganic compounds were identified in the source water and not detected in the rinseate water, however, it should be noted that the detection limit for the rinseate water was higher due to the TCLP extraction procedures. In any event all detected

concentrations were lower than the approved clean standard described. Although four constituents tested for in the rinseate had laboratory detection limits above the clean standards as defined above the results of the rinseate testing were compared to RCRA clean standards for debris and are well below the acceptable limits. Copies of the laboratory data sheets are included in Appendix I.

Therefore, Tank # W-1 is considered within the EPA Clean Standard and may be disposed of or sold as scrap. At the time of preparation of this closure plan the tank had not been scraped or disposed.

Table 1. Summary of Analyses and Analytical Methods

ANALYSIS	METHOD (rinseate)	METHOD (source water)
TCLP Extraction	EPA 1311	na
TCLP Volatiles	EPA 8010, 8020, 8015	na
TCLP Phenolics/Base Neutrals	EPA 8270	na
Purgeable Halocarbons	na	EPA 601/8010
Purgeable Aromatics	na	EPA 602/8020
Semi-Volatile by GC/MS	na	EPA 625/8270
Arsenic	SW846-7060	SW846-7060
Barium	SW846-7080	SW846-6010
Cadmium	SW846-7130	SW846-7130
Chromium	SW846-7190	SW846-7190
Copper	SW846-7210	SW846-7210
Lead	SW846-7420	SW846-7420
Mercury	SW846-7470	SW-846-7470
Selenium	SW846-7740	SW-846-7740
Silver	SW846-7760A	SW846-7760
Zinc	SW846-7950	SW846-7950

na = not applicable

Table 2 Analytical Data for Tank W-1 Closure.

Constituent	MCL mg/ℓ	MCLG mg/ℓ	Clean Standard mg/ℓ	Tank Rinseate mg/ℓ	Source Water mg/ℓ
Lab. Sample No.				AC33949	AC33950
Metals					
Arsenic (As)	0.050	NA	0.750	<0.04	<0.004
Barium (Ba)	2.000	NA	1.000	<4.000	<0.050
Cadmium (Cd)	0.005	0.005	0.080	<0.100	<0.002
Copper (Cu)	1.300[1]	NA	1.000	<0.200	<0.005
Chromium (Cr)	0.010	0.01	0.150	<0.200	<0.050
Lead (Pb)	0.015	NA	0.230	<0.200	<0.050
Mercury (Hg)	0.002	0.002	0.030	<0.004	<0.0002
Selenium (Se)	0.050	0.05	0.750	<0.040	<0.008
Silver (Ag)	0.050	NA	0.750	<0.200	<0.005
Zinc (Zn)	5.000[1]	NA	1.000	<0.200	<0.005
Volatile Organics					
Benzene	0.005	NA	0.080	<0.050	<0.001
1,4-dichlorobenzene	0.060	0.60	0.900	<0.050	<0.001
Chlorobenzene	0.100	0.10	1.000	<0.050	<0.005
Tetrachloroethene	0.005	0.00	0.080	<0.050	<0.001
Methyl Ethyl Ketone	NA	NA	1.000	<0.050	0.0096
1,2-dichloroethane	0.005	NA	0.080	<0.050	<0.001
Trichloroethene	0.005	NA	0.080	<0.050	<0.001
1,1-dichloroethene	0.007	NA	0.110	<0.050	<0.001
1,2-dichloroethane	0.070	0.07	1.000	<0.050	<0.001
Vinyl Chloride	0.002	NA	0.030	<0.020	<0.005
Carbon Tetrachloride	0.005	NA	0.080	<0.050	<0.001
Chloroform	NA	NA	1.000	<0.050	0.011
Phenolics/Base Neutrals/Semi-Volatile Organics					
o-Cresol	NA	NA	1.000	<0.400	<0.400
m+p Cresol	NA	NA	1.000	<0.400	<0.400
Pentachlorophenol	0.015[1]	NA	0.450	<0.400	<0.400
2,4,5-Trichlorophenol	NA	NA	1.000	<0.400	<0.400
2,4,6-Trichlorophenol	NA	NA	1.000	<0.400	<0.400
1,4-Dichlorobenzene	NA	NA	1.000	<0.200	<0.200
2,4-Dinitrotoluene	NA	NA	1.000	<0.070	<0.070
Hexachlorobenzene	0.001	NA	0.015	<0.050	<0.050
Hexachlorobutadiene	NA	NA	1.000	<0.100	<0.100
Hexachloroethane	NA	NA	1.000	<0.100	<0.100
Nitrobenzene	NA	NA	1.000	<0.100	<0.100
Pyridine	NA	NA	1.000	<0.200	<0.200

[1] From Secondary MCL, NA - Not Available, NM - Not Measured, < 0.002 - below detection limit of 0.002 ppm
Shaded blocks indicate laboratory detection limit above clean standard

2.4 CERTIFICATION

MANAGEMENT APPROVAL

This Closure has been performed as herein described.

Signature George E Cross

Name and Title George Cross Plant Supervisor

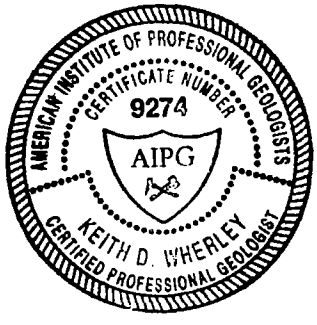
CERTIFICATION

I hereby certify that, although not specifically identified in the site closure plan, this tank has been decontaminated and dismantled in general accordance with the approved procedures listed in that document and as described in this report.

Keith D. Wherley, CPG
Printed Name of Certified Professional Geologist

Signature of Certified Professional Geologist

9274
Certificate Number

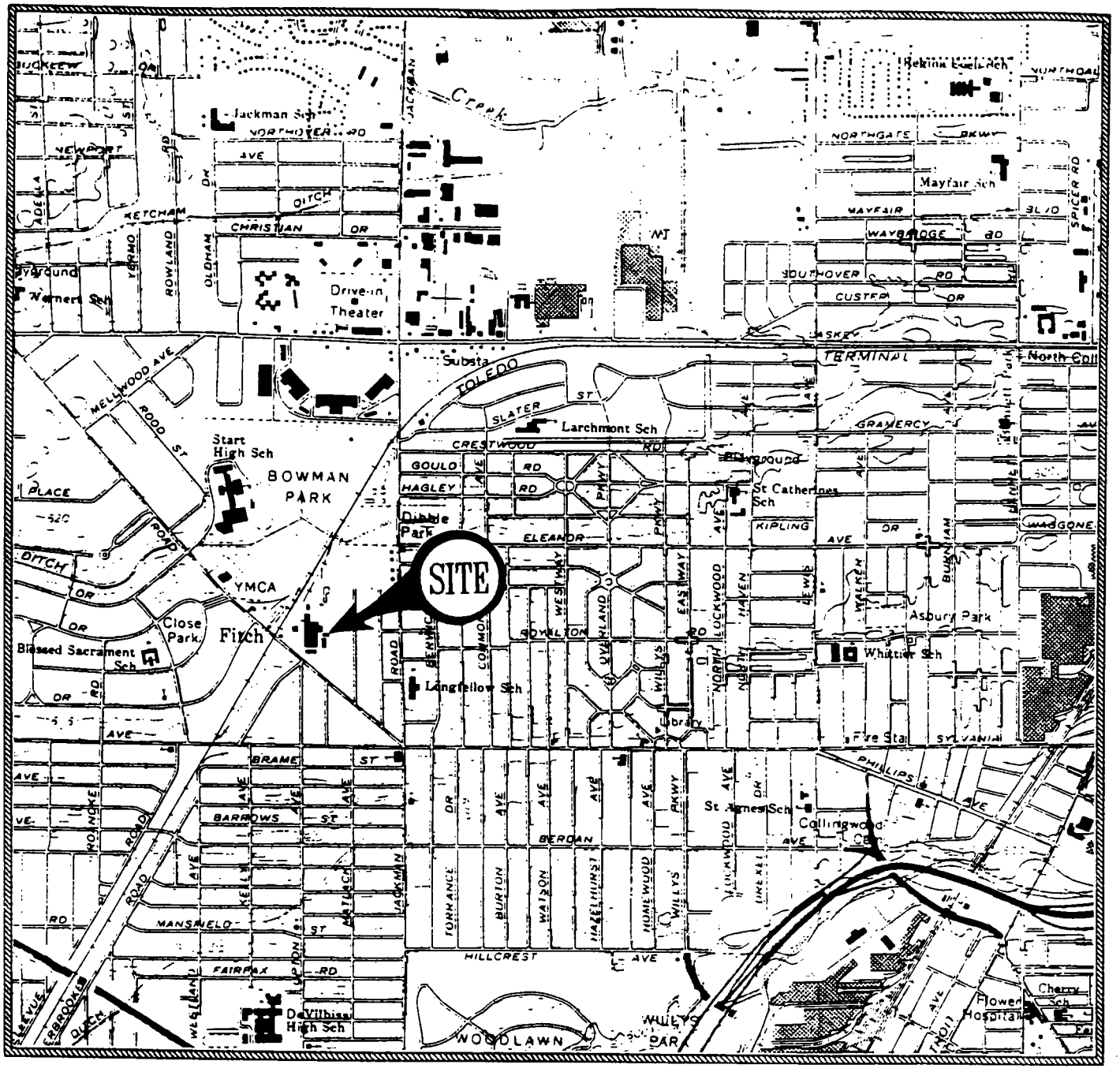


(seal)

date: 4/18/95

ATTACHMENT 1

AREA MAP



SCALE 1:24000

1 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 5 0 1 KILOMETER

CONTOUR INTERVAL 5 FEET

FIGURE 1

SITE LOCATION MAP

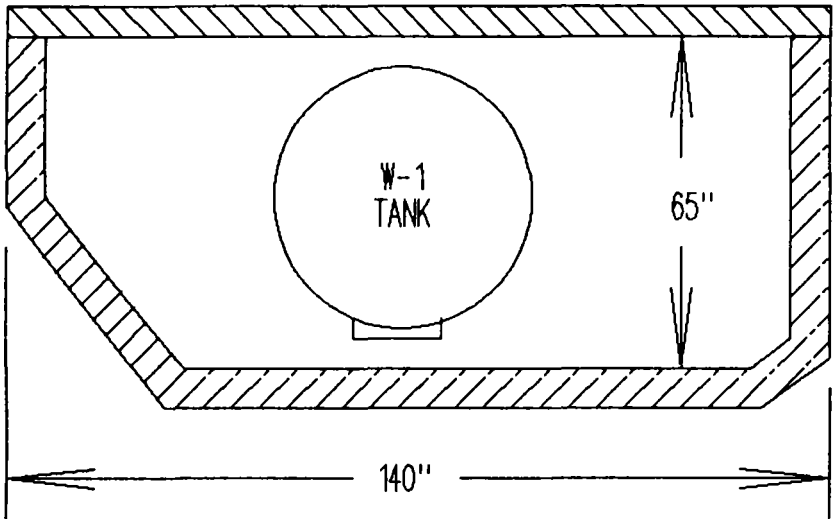
DuPont AP Plant

1930 Tremainsville Road

TOLEDO, OHIO
From U.S.G.S
7.5 Minute
Topographic Quadrangle

ATTACHMENT 2

SKETCH OF TANK #W-1 AND DIKE



NOTE: DIKE WALL IS 30" HIGH
MADE OF POURED CONCRETE

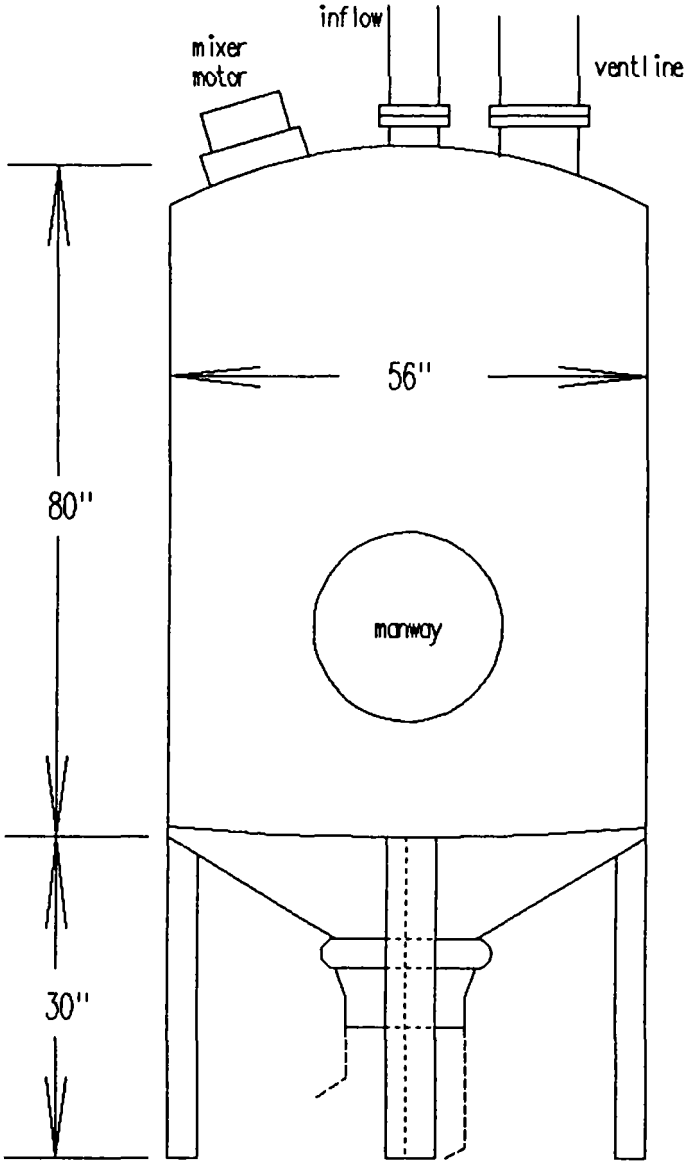


Figure 2

TANK AND CONTAINMENT		
DuPont AP Plant		
1930 Tremainsville Road Toledo, Ohio		
HERITAGE ENVIRONMENTAL SERVICES, INC. 5656 OPPORTUNITY DRIVE TOLEDO, OHIO 43612		HERITAGE
REVISION: 001	DATE: 4-3-95	DRAWN BY: KDW
SCALE: NTS	DWG NO. 4079f2	APPROVED BY:

APPENDIX I

ANALYTICAL DATA REPORTS

FEB 2 1 1995

JONES & HENRY LABORATORIES, INC. / 2567 TRACY ROAD, NORTHWOOD, OHIO 43619 / (419) 666-0411

February 17, 1995

To: Heritage Remediation/
Engineering, Inc.
5656 Opportunity Drive
Toledo, Ohio 43612
ATTN: Mr. Bob Bourne

The following analytical results have been obtained for the indicated sample which was submitted to this laboratory:

Sample I.D. AC33950 Location code: HRE
Purchase order number: 64079 Project account code: 310
Location Description: Source Water (tap)
Sample collector: CLIENT Sample collection date: 02/07/95
Lab submittal date: 02/07/95 Time: 14:18
Received by: JK Validated by: FD

Parameter: ARSENIC
Method reference: 206.2/7060 Unit: mg/L
Result: Not detected MDL or sensitivity: 0.004
Date started: 02/10/95 Date finished: 02/10/95
Time started: Analyst: JH

Parameter: BARIUM
Method reference: 200.7/6010 Unit: mg/L
Result: Not detected MDL or sensitivity: 0.05
Date started: 02/14/95 Date finished: 02/14/95
Time started: Analyst: JG

Parameter: CADMIUM
Method reference: 213.1/7130 Unit: mg/L
Result: Not detected MDL or sensitivity: 0.002
Date started: 02/13/95 Date finished: 02/13/95
Time started: Analyst: PL

Parameter: CHROMIUM
Method reference: 218.1/7190 Unit: mg/L
Result: Not detected MDL or sensitivity: 0.050
Date started: 02/13/95 Date finished: 02/13/95
Time started: Analyst: PL

Parameter: COPPER
Method reference: 220.1/7210 Unit: mg/L
Result: Not detected MDL or sensitivity: 0.005
Date started: 02/13/95 Date finished: 02/13/95
Time started: Analyst: PL

Parameter: LEAD
Method reference: 239.1/7420 Unit: mg/L
Result: Not detected MDL or sensitivity: 0.05
Date started: 02/13/95 Date finished: 02/13/95
Time started: Analyst: PL

Parameter: MERCURY
Method reference: 245.1/7470 Unit: mg/L
Result: Not detected MDL or sensitivity: 0.0002
Date started: 02/08/95 Date finished: 02/08/95
Time started: Analyst: PL

Parameter: SILVER
Method reference: 272.1/7760 Unit: mg/L
Result: Not detected MDL or sensitivity: 0.005
Date started: 02/13/95 Date finished: 02/13/95
Time started: Analyst: PL

Parameter: SELENIUM
Method reference: 270.2/7740 Unit: mg/L
Result: Not detected MDL or sensitivity: 0.008
Date started: 02/17/95 Date finished: 02/17/95
Time started: Analyst: JH

Parameter: ZINC
Method reference: 289.1/7950
Result: 0.025 mg/L MDL or sensitivity: 0.005
Date started: 02/13/95 Date finished: 02/13/95
Time started: Analyst: PL

Parameter: PURGEABLE HALOCARBONS
Method reference: EPA 601/8010 Unit: ug/L
Result: see below
Date started: 02/08/95 Date finished: 02/08/95
Time started: Analyst: NS

Parameter: PURGEABLE AROMATICS
Method reference: EPA 602/8020 Unit: ug/L
Result: see below
Date started: 02/08/95 Date finished: 02/08/95
Time started: Analyst: NS

Parameter: SEMIVOLATILES by GC/MS 625/8270
Method reference: EPA 625/8270 Unit: ug/L
Result: see below
Date started: 02/13/95 Date finished: 02/13/95
Time started: Analyst: JR

Data for PURGEABLE HALOCARBONS ug/L:

Component Name	Result	Component MDL
CARBON TETRACHLORIDE	Not detected	1.0
CHLOROBENZENE	Not detected	5.0

Data for PURGEABLE HALOCARBONS (continued):

Component Name	Result	Component MDL
CHLOROFORM	11	1.0
1,2-DICHLOROETHANE	Not detected	1.0
1,1-DICHLOROETHENE	Not detected	1.0
TETRACHLOROETHENE	Not detected	1.0
TRICHLOROETHENE	Not detected	1.0
VINYL CHLORIDE	Not detected	5.0

Data for PURGEABLE AROMATICS ug/L:

Component Name	Result	Component MDL
BENZENE	Not detected	1.0
1,4-DICHLOROBENZENE	Not detected	1.0
METHYL ETHYL KETONE	9.6	1.0

Data for SEMIVOLATILES by GC/MS 625/8270 ug/L:

Component Name	Result	Component MDL
o-CRESOL	Not detected	400
m+p-CRESOL	Not detected	400
PENTACHLOROPHENOL	Not detected	400
2,4,5-TRICHLOROPHENOL	Not detected	400
2,4,6-TRICHLOROPHENOL	Not detected	400
1,4-DICHLOROBENZENE	Not detected	200
2,4-DINITROTOLUENE	Not detected	70
HEXACHLOROBENZENE	Not detected	50
HEXACHLOROBUTADIENE	Not detected	100
HEXACHLOROETHANE	Not detected	100
NITROBENZENE	Not detected	100
PYRIDINE	Not detected	200

Sample comments:

Project #64079 DuPont Waste Tank #1 Closure.

If there are any questions regarding this data, please call.

Fred W. Doering
President

JONES & HENRY LABORATORIES, INC. / 2567 TRACY ROAD, NORTHWOOD, OHIO 43619 / (419) 666-0411

February 17, 1995

To: Heritage Remediation/
Engineering, Inc.
5656 Opportunity Drive
Toledo, Ohio 43612
ATTN: Mr. Bob Bourne

The following analytical results have been obtained for the indicated sample which was submitted to this laboratory:

Sample I.D. AC33949 Location code: HRE
Purchase order number: 64079 Project account code: 310
Location Description: Rinsate Water - Tank W-1
Sample collector: CLIENT Sample collection date: 02/07/95
Lab submittal date: 02/07/95 Time: 14:02
Received by: JK Validated by: FD

Parameter: TCLP NON-VOLATILE EXTRACTION
Method reference: EPA 1311 Unit:
Result: Completed MDL or sensitivity:
Date started: 02/09/95 Date finished: 02/09/95
Time started: Analyst: CF

Parameter: TCLP METALS (MI)
Method reference: EPA7000 Unit: mg/L
Result: see below
Date started: 02/14/95 Date finished: 02/16/95
Time started: Analyst: PL

Parameter: TCLP ZERO HEADSPACE EXTRACTION
Method reference: EPA 1311 Unit:
Result: Completed MDL or sensitivity:
Date started: 02/09/95 Date finished: 02/09/95
Time started: Analyst: CF

Parameter: TCLP VOLATILES
Method reference: 80-10,20,15 Unit: mg/L
Result: see below
Date started: 02/10/95 Date finished: 02/10/95
Time started: Analyst: NS

Parameter: TCLP PHENOLICS/BASE NEUTRALS
Method reference: EPA8270 Unit: mg/L
Result: see below
Date started: 02/10/95 Date finished: 02/13/95
Time started: Analyst: JR

Data for TCLP METALS (MI) mg/L:

Component Name	Result	Component MDL
ARSENIC	Not detected	0.04
BARIUM	Not detected	4.0
CADMIUM	Not detected	0.1
CHROMIUM	Not detected	0.2
COPPER	Not detected	0.2
LEAD	Not detected	0.2
MERCURY	Not detected	0.004
SELENIUM	Not detected	0.04
SILVER	Not detected	0.2
ZINC	Not detected	0.2

Data for TCLP VOLATILES mg/L:

Component Name	Result	Component MDL
BENZENE	Not detected	0.05
CARBON TETRACHLORIDE	Not detected	0.05
CHLOROBENZENE	Not detected	0.05
CHLOROFORM	Not detected	0.05
1,4-DICHLOROBENZENE	Not detected	0.05
1,2-DICHLOROETHANE	Not detected	0.05
1,1-DICHLOROETHENE	Not detected	0.05
METHYL ETHYL KETONE	Not detected	0.05
TETRACHLOROETHENE	Not detected	0.05
TRICHLOROETHENE	Not detected	0.05
VINYL CHLORIDE	Not detected	0.02

Data for TCLP PHENOLICS/BASE NEUTRALS mg/L:

Component Name	Result	Component MDL
o-CRESOL	Not detected	0.4
m+p-CRESOL	Not detected	0.4
PENTACHLOROPHENOL	Not detected	0.4
2,4,5-TRICHLOROPHENOL	Not detected	0.4
2,4,6-TRICHLOROPHENOL	Not detected	0.4
1,4-DICHLOROBENZENE	Not detected	0.2
2,4-DINITROTOLUENE	Not detected	0.07
HEXACHLOROBENZENE	Not detected	0.05
HEXACHLOROBUTADIENE	Not detected	0.1
HEXACHLOROETHANE	Not detected	0.1
NITROBENZENE	Not detected	0.1
PYRIDINE	Not detected	0.2

Sample comments:

TCLP metals are determined by standard addition.

Project #64079 DuPont Waste Tank #1 Closure.

If there are any questions regarding this data, please call.

Fred W. Doering
President

HERITAGE™

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME
64079	Du Pont Waste Tank #1 Closure

SAMPLERS: (Signature) Scott E. Mill

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	TCLP RCRA Metals (8)	TCLP Semi Volatiles	TCLP Volatiles	Total Metals (10)	Semi Volatiles	Volatiles	REMARKS
1	2/7/95	12:50		X	Rinse Water from Waste Tank	4-1qt.	X	X	X				No Pesticides or Herbicides
2	2/7/95	13:02		X	Source Water (tap)	2-40ml				X	X	X	

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Scott E. Mill	2-7-95 13:30	John Teel	John Teel		
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		J. Kaufer	2/7/95 1:55 pm		

HAZARDOUS WASTE

STORAGE FACILITY

PART B CLOSURE REPORT

TANKS # C-2 and C-4

E.I. DUPONT DE NEMOURS & CO.

TOLEDO AP PLANT

PREPARED FOR:

E.I. DuPont de Nemours & Co.
Toledo AP Plant
1930 Tremainsville Road
Toledo, Ohio 43613

PREPARED BY:

Heritage Remediation/Engineering, Inc.
5656 Opportunity Drive
Toledo, Ohio 43612-2922

September 24, 1993

Lucas
E.I. DuPont

HERITAGE REMEDIATION/ENGINEERING, INC.

5656 Opportunity Drive
Toledo, OH 43612
Phone: 419/478-4396
FAX: 419/478-4560

October 6, 1993

Mr. Michael Terpinski
Ohio Environmental Protection Agency
Northwest District Office
Division of Solid and Hazardous Waste Management
347 N. Dunbridge Road
Bowling Green, OH 43402-0466

Re: DuPont Automotive Products
1930 Tremainsville Rd.
Toledo, Ohio 43613
Closure Report for
Tanks #C-2 and C-4
HR/E Project No. 63025

Dear Mr. Terpinski:

Attached is the closure report for Tanks # C-2 and C-4 located at the DuPont Automotive Product Plant in Toledo, Ohio. This report is provided at Ms. Denise Trabbic-Pointer's request. If you have any questions or comments, do not hesitate to contact us.

Sincerely,
Heritage Remediation/Engineering, Inc.

Joseph D. Ritchey, P.E.
Sr. Project Engineer

attachment

cc: Denise Trabbic-Pointer

93JR0065.T4

HAZARDOUS WASTE STORAGE FACILITY
PART B CLOSURE REPORT
TANKS # C-2 and C-4
E.I. DUPONT DE NEMOURS & CO.
TOLEDO AP PLANT

PREPARED FOR:

E.I. DUPONT DE NEMOURS & CO.
TOLEDO AP PLANT
1930 TREMAINSVILLE ROAD
TOLEDO, OHIO 43613
419-478-1211

PREPARED BY:

HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPORTUNITY DRIVE
TOLEDO OH 43612-2922

Certified By:

Joseph D. Ritchey, P.E.
Ohio Reg. No. E-53107
September 24, 1993

HAZARDOUS WASTE STORAGE FACILITY
PART B CLOSURE REPORT FOR TANKS # C-2 and C-4

E.I. DUPONT DE NEMOURS & CO.
TOLEDO AP PLANT
1930 TREMAINSVILLE ROAD
TOLEDO, OH 43613

TABLE OF CONTENTS

1.0 INTRODUCTION

1.1 CLOSURE PLAN

The activities described herein were conducted in accordance with the approved Hazardous Waste Storage Facility Part B Closure Plan dated May 19, 1992. The referenced plan describes closure activities for areas regulated by the Resource Conservation and Recovery Act (RCRA). Closure of the tanks described in this report were not specifically described in the above referenced closure plan. However, closure of the tanks has been performed consistent with the approved plan. all of the Toledo AP Plant areas including Tanks # C-4 and C-4.

1.2 FACILITY DESCRIPTION

The E. I. DuPont de Nemours & Co., Inc. facility manufactures automotive paints and resins. These processes or activities generate various wastes as described in Section 3.0 of the Hazardous Waste Storage Facility Part B Closure Plan dated May 19, 1992. The facility is located in Toledo, Lucas County, Ohio and is bordered by Harris Street and Jackman Rd. to the east, Tremainsville Rd. to the south, and railroad tracks to the west and north (See Figure 1). The Facility is approximately 17 acres in size.

1.3 TANKS # C-2 AND C-4 DESCRIPTION

Tanks # C-2 and C-4 are each cylindrical with a flat bottom. The tanks are each fabricated of stainless steel. The tanks are 12.5 feet tall, and they are approximately 11 feet in diameter. Each tank has side and top entry manways.

The tanks each had a reported capacity of 10,152 gallons.

The tanks were reported to be used for waste water containing listed hazardous waste codes F-003 and F-005 for the five years prior to closure the tank. The tanks were also reported to contain castor oil as represented in a Material Safety Data Sheet (MSDS) presented in Appendix 1.

2. CLOSURE ACTIVITIES

2.1 TANK #C-2 and C-4 DECONTAMINATION

On August 19, 1993 HR/E personnel set up an equipment trailer, air compressor, drum vacuum unit and cold pressure washer for cleaning the tanks. Remaining waste water from the tanks last use was removed using a pneumatically powered vacuum unit and placed in 550 gallon portable totes. Following monitoring using an oxygen/explosion meter, HR/E personnel entered the tank under supplied breathing air. Work continued on August 20 and August 23, 1993. Sludge was removed from the tank bottom using the vacuum unit and placed in eight 55 gallon drums. The tanks were washed and rinsed using a high pressure power washer. Wash/rinse water was supplied from a faucet located in an adjacent building housing fire protection equipment. Three separate rinses were performed on each tank. Rinse water was collected using the vacuum equipment and stored in 550 gallon portable totes used for containing the waste water. Sludge collected was transported to the Rineco disposal facility located in Benton, Arkansas. Waste water and rinse water collected was transported to the Ross Incineration facility located in Grafton, Ohio. Waste manifests are provided in Appendix 2.

2.2 SAMPLING

On August 23, 1993, following the third pressure washing, a sample was collect from the final rinse from each tank using new plastic "dust" pans. The collected water was transferred to two 40 mil. glass vials and one 16 oz. glass jar as appropriate for analysis. A sample was collected of the plant tap water from the faucet. This sample was labeled "tap water used in rinse". A sample was also collected of plant deionized (DI) water that was transferred from its shipping container to two 40 mil. glass vials proximate to tanks # C-2 and C-4. This sample was labeled "DI Water Filled in Room". This activity was performed to evaluate possible sorption of airborne organic compounds by the water during sampling.

Sampling was performed by Jay Romstadt, Dan Wherley and Joe Ritchey of HR/E. Samples were labeled and placed in a cooler containing ice. The samples were shipped via UPS over night to Heritage Laboratories, Inc. in Indianapolis, Indiana.

Appendix 3 includes a copy of the certificates of analysis and the completed Chain-of-Custody form.

2.3 ANALYSIS

Analyses performed on collected samples are summarized in Table 1. Tank risneate samples were analyzed for RCRA regulated volatile organic compounds (VOCs) and semi-volatile organic (SVOCs) compounds using USEPA Method SW846-8240 and 8270, respectively. Analyses were also performed to evaluate the presence of any of the RCRA "F" listed alcohols using method SW846-8015.

Table 1. Summary of Analyses and Analytical Methods

SAMPLE	ANALYSIS	METHOD
Final Tank C-2 Rinseate	VOCs, SVOCs, RCRA Alcohols	SW846-8240, 2870, 8015
Final Tank C-4 Rinseate	VOCs, SVOCs, RCRA Alcohols	SW846-8240, 8270,8015
Tap Water Used in Rinse	VOCs	SW846-8240
DI Water Filled in Room	VOCs	SW846-8240
Trip Blank	VOCs	SW846-8240

The closure plan stipulated that the final rinseates must meet or exceed:

- Fifteen times the public drinking water MCL for hazardous waste constituents.
- If an MCL is not available for a particular contaminant, then fifteen times the MCLG.
- If a product of fifteen time the MCL or MCLG exceeds 1 mg/liter or if neither an MCL or MCLG is not available for a particular contaminant, 1 mg/liter shall be used as the clean standard.

The analytical results from the tank risneate samples are summarized in Table 2. Also included are the clean standards as determined from the approved closure plan and federal maximum contaminant levels (MCLs). In summary, a few organic compounds were identified in the water from various sources, however, all detectable compounds were at levels at or below the clean standard.

Therefore, tanks # C-2 and C-4 are considered with in the EPA Clean Standard and may be made available for some other use.

Table 2. Analytical Data for Rinse Samples

Constituent	MCL mg/L	MCLG mg/L	Clean Standard mg/L	TK # C-2 Final Rinsate mg/L	TK # C-4 Final Rinsate mg/L	Tap Water Used in Rinse mg/L	DI Water Filled in Room mg/L
Lab Sample No.				A287942	A287943	A287944	A287945
Volatile Organics							
Ethylbenzene	0.700	0.70	1.000	0.008	0.067	<0.005	<0.005
Toluene	1.000	1.00	1.000	<0.005	0.044	<0.005	<0.005
Total Xylenes	10.000	10.00	1.000	0.046	0.290	<0.005	<0.005
Acetone	NA	NA	1.000	0.130	0.170	<0.020	<0.020
Bromodichloromethane	NA	NA	1.000	<0.005	<0.005	0.009	<0.005
Chloroform	NA	NA	1.000	<0.005	<0.005	0.025	<0.005
Semi-Volatile Organics							
Di(N-butyl)phthalate	NA	NA	1.000	<0.010	0.006	NM	NM
Bis(2-EH)phthalate	0.004	NA	0.060	0.013	0.007	NM	NM
2-Methylnapthalene	NA	NA	1.000	<0.010	0.005	NM	NM
Alcohols							
Methanol	NA	NA	1.000	<0.005	1.000	NM	NM

NA - Not Applicable, NM - Not Measured

2.4 CERTIFICATION

MANAGEMENT APPROVAL

I, Closure has been performed as herein described.

Signature _____

Name and Title Mr. Samuel J. Bright - Toledo Plant Manager

CERTIFICATION

I hereby certify that I have examined the facility and being familiar with the provisions of 40 CFR, Part 264.115/OAC 3745-66-15, attest that this closure has been preformed in accordance with the approved closure plan.

Seal: STATE OF OHIO JOSEPH D. RITCHEY E-053107 REGISTERED PROFESSIONAL ENGINEER

Joseph D. Ritchey, PE
Printed Name of Registered Professional Engineer

_____
Signature of Registered Professional Engineer

E-53107
Registration No.

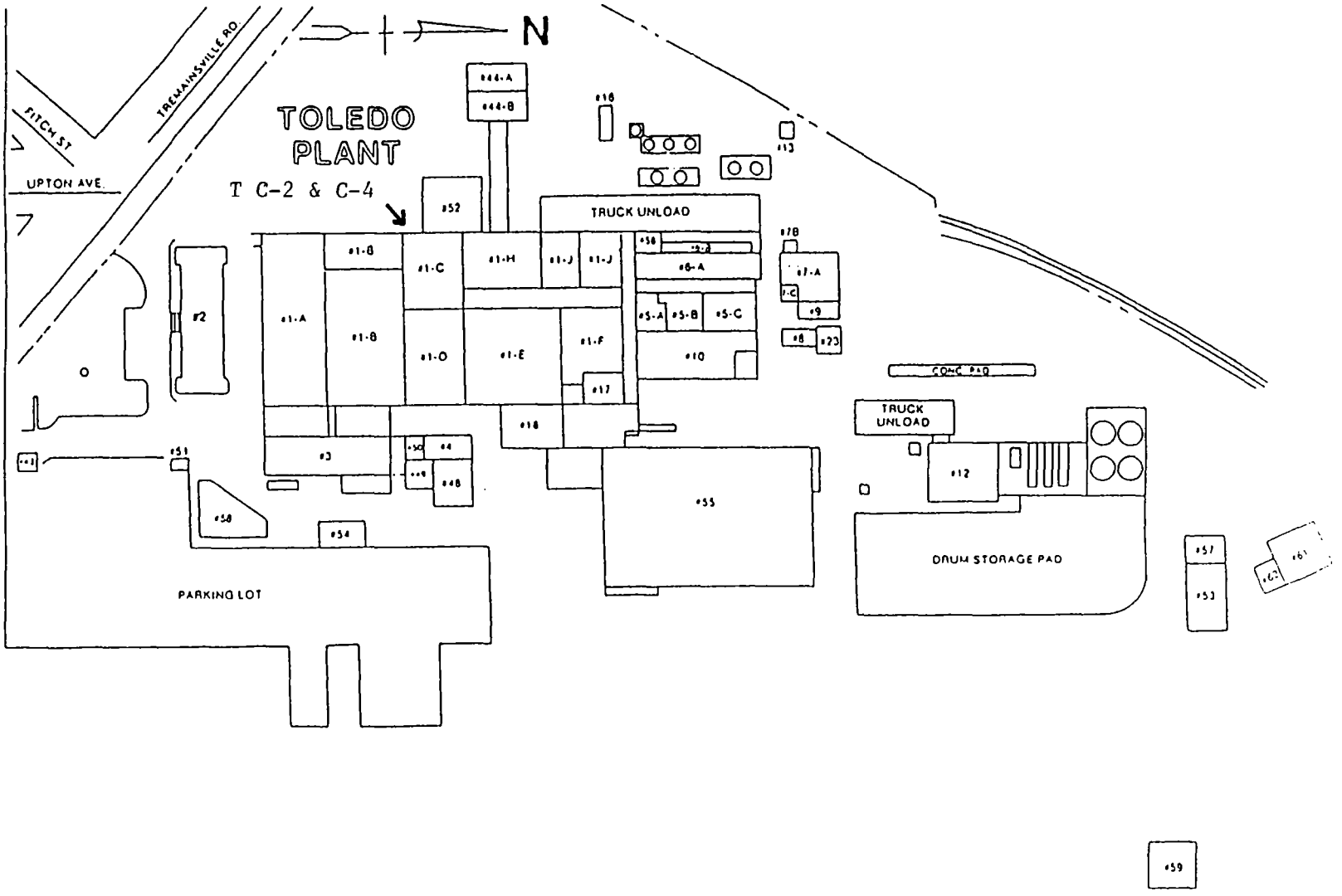
Ohio
State

Date: 10/6/93

ATTACHMENT 1

AREA MAP

1-A	ENAMELS/RECEIVING
1-B	ENAMELS/STORAGE
1-C	RECEIVING/STORAGE
1-D	ENAMELS/STORAGE
1-E	RESIN STORAGE
1-F	TANK ROOM
1-H	RESIN AREA — REAC. 4 & 5
1-J	REACTORS #1, #2 & 3
2	MAIN OFFICE
3	LAB/MECHANICAL/ENGINEERING
4	STOREROOM
5-A	STORAGE
5-B	PT REPAIR
5-C	EQUIPMENT CLEANING
6-A	DOWTH., MECH., SOLV. RECOVERY
6-B	STORAGE TANKS
7-A	POWERHOUSE
7-B	CONTROL ROOM
7-C	WELL
8	RESERVOIR — WATER
9	INERT GAS
10	P.T. CLEANING/SCRAP DOCK
11	PUMP HOUSE
12	SOLVENT STORAGE
13	GAS METER HOUSE
14	STORAGE TANKS
15	STORAGE TANK
16	M.P.A. TANK
17	STORAGE
18	DOCK/STORAGE
43	OFFICE/CREDIT UNION
44	STORAGE
48	STOREROOM/STORAGE
49	TRANSFORMERS
50	CONTROL ROOM
51	GATE HOUSE
52	TRUCK REPAIR
53	GARAGE
54	T/W LOADING SHED
55	SHIPPING WAREHOUSE
56	REACTOR #7 BUILDING
57	STORAGE SHED/ENGINEERING
58	CAFETERIA/CHANGEHOUSE
59	CONTRACTOR GATE
61	PEROXIDE STORAGE
62	AZO



APPENDIX 1

MSDS FOR CASTOR OIL

MATERIAL IDENTIFICATION

CASTOR OIL

MSDS NUMBER : 04215565
CORPORATE NUMBER : DU005020

Revision Date : 28-Feb-92
Date Printed : 11-Aug-93

What used to be in C-2 and C-4

MANUFACTURER/DISTRIBUTOR
MORTON INTERNATIONAL
MOTOR OIL, INC.

PHONE NUMBERS
TRANSPORT EMERGENCY : CHEMTREC: 1-800-424-9300
MEDICAL EMERGENCY : 1-800-441-3637

CAS NUMBER : 8001-79-4
TSCA INVENTORY STATUS : Reported/Included
NPCA-HMIS RATINGS : Health: 1 Flammability: 1 Reactivity: 0
Personal Protection rating to be supplied by user depending on use conditions.

COMPONENTS

Material	CAS Number	%
CASTOR OIL (RICINUS OIL)	8001-79-4	100

PHYSICAL DATA

Boiling Point : ~313 deg C (~595 deg F) @ 1 ATM
Vapor Pressure : >0.1 mm Hg at 25 deg C (77 deg F)
% Volatiles : <1 WT %
Water Solubility : Insoluble
Odor : Mild fatty
Form : Liquid emulsion
Color : Pale yellow
Specific Gravity : 0.959

HAZARDOUS REACTIVITY

Instability : Stable at normal temperatures and storage conditions.
Incompatibility : Incompatible with oxidizing agents and acids.
Decomposition : Decomposes with heat. Hazardous gases/vapors produced are smoke, soot, carbon monoxide and carbon dioxide.
Polymerization : Polymerization will not occur.

FIRE AND EXPLOSION DATA

Flash Point : >93 deg C (>200 deg F)
Method : SETAFLASH

Flash Point: 229 deg C (445 deg F) COC

FIRE AND EXPLOSION HAZARDS
Hazardous gases/vapors produced in fire are smoke, soot, carbon monoxide and carbon dioxide.

EXTINGUISHING MEDIA
Water Spray. Foam. Dry Chemical. CO2.

Halon

SPECIAL FIRE FIGHTING INSTRUCTIONS
Keep personnel removed & upwind of fire. Wear self-contained breathing apparatus. Wear full protective equipment. Cool tank/container with water spray.

OTHER PHYSICAL HAZARDS

This container can be hazardous when empty, because it can retain product residues. Therefore, do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

HEALTH HAZARD INFORMATION

EFFECTS OF OVEREXPOSURE:

SKIN CONTACT: Irritatation can possibly occur following prolonged or repeated contact.

INGESTION: Can cause nausea, vomiting, and gastrointestinal upset (e.g. diarrhea).

CARCINOGENICITY
None of the components in this material is listed by IARC, NTP, OSHA, or ACGIH as a carcinogen.

EXPOSURE LIMITS
CASTOR OIL

TLV (ACGIH) : None Established
PEL (OSHA) : None Established

(HEALTH HAZARD INFORMATION - Continued)

SAFETY PRECAUTIONS

Avoid breathing vapors or mist. Avoid contact with eyes, skin, or clothing. Wash thoroughly after handling. Wash clothing after use.

FIRST AID

INHALATION

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

SKIN CONTACT

Flush skin with water after contact. Wash contaminated clothing before reuse.

EYE CONTACT

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

INGESTION

If swallowed, immediately give 2 glasses of water and induce vomiting. Never give anything by mouth to an unconscious person. Call a physician.

PROTECTION INFORMATION

GENERALLY APPLICABLE CONTROL MEASURES AND PRECAUTIONS

Use only with adequate ventilation. Keep container tightly closed.

This container can be hazardous when empty, because it can retain product residues. Therefore, do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE PROTECTION

Wear safety glasses. Wear coverall chemical splash goggles and face shield when the possibility exists for eye and face contact due to splashing or spraying of material.

RESPIRATORS

This material does not have established exposure limits. Wear a positive pressure air-supplied respirator in situations where a respirator is judged appropriate.

PROTECTIVE CLOTHING

Wear impervious clothing, such as gloves, apron, boots, or whole bodysuit as appropriate. No vendor recommendation on

(PROTECTION INFORMATION - Continued)

material of construction for protective clothing.

DISPOSAL INFORMATION

SPILL, LEAK, OR RELEASE

NOTE: Review FIRE AND EXPLOSION HAZARDS and SAFETY PRECAUTIONS before proceeding with clean up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean up.
Dike spill. Prevent liquid from entering sewers, waterways or low areas. Soak up with sawdust, sand, oil dry or other absorbent material.

If a substantial quanitity is spilled and can be pumped, recover with pumping equipment or a vacuum truck. Place contaminated material in a suitable container for further handling and disposal.

WASTE DISPOSAL

Treatment, storage, transportation and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations. Do not flush to surface water or sanitary sewer system.

Of the methods of disposal currently available, the vendor recommends that an alternative be selected according to the following order of preference, based upon enviornmental acceptability:
(1) Recycle or rework if at all feasible
(2) Incinerate in an authorized facility
(3) Treat at an acceptable waste treatment facility, or
(4) Landfill at an approved facility (solidification or fixation may be required prior to disposal.

STORAGE CONDITIONS

Store above 43 deg C (110 deg F). Store in well ventilated area. Store in cool place. Keep container tightly closed.

Store in a dry place.

TITLE III HAZARD CLASSIFICATIONS

Acute : Yes
Chronic : No
Fire : No
Reactivity : No
Pressure : No

ADDITIONAL INFORMATION AND REFERENCES

Technical data, based on Morton International MSDS dated 9/24/90, Motor Oil, Inc. MSDS dated 2/7/84.

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

Responsibility for MSDS : Du Pont
Corporate MSDS Office - HR
Barley Mill Plaza, P14-2150
Wilmington, DE 19880-0014
302-992-6704

End of MSDS

APPENDIX 2

WASTE MANIFESTS

...URE OR ACCIDENT
...EC - DAY OR NIGHT
...-9300 (TOLL FREE)
...SHINGTON, D.C. 483-7616
...E CONTINENTAL U.S.A. (202) 483-7616

Public reporting burden for this collection of information is estimated to average: 37 minutes for generators, 15 minutes for transporters, and 10 minutes for treatment, storage and disposal facilities. This includes time for reviewing instructions, gathering data and completing and reviewing the form. Send comments regarding the burden estimate, including suggestions for reducing this burden to: Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street SW., Washington DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington DC 20503

SID NUMBER MUST BE SHOWN ON ALL FREIGHT BILLS AND CORRESPONDENCE

Shipment Identification Number: SID-SID-SID-SID-SID-SID-SID-SID-SID-SID-SID-SID-S 93102 HWM D-SID-SID-SID-SID-SID-SID-SID-SID-SID-SID-SID-SID-D

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No. 2050-0039 Expires 9-30-92

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. OHD005041843 Manifest Document No. 93102

2. Page 1 of 1

Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
E.I. DUPONT CO.
1930 TREMAINSVILLE RD.
TOLEDO OHIO 43613

A. State Manifest Document Number

B. State Generator's ID

4. Generator's Phone (419) 478 1211

5. Transporter 1 Company Name: ROSS TRANSPORTATION INC.

6. US EPA ID Number: OHD980614374

C. State Transporter's ID

D. Transporter's Phone: 800 7836555

7. Transporter 2 Company Name

8. US EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address
ROSS INCINERATION CO.
36790 GILES RD.
GRAFTON, OH. 44044

10. US EPA ID Number: OHD048415665

G. State Facility's ID

H. Facility's Phone: 800 878 7677

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. HM RQ HAZARDOUS WASTE LIQUID, n.o.s. (WASTE CONTAMINATED WATER) 9 NA 3082 PG III (F003, F005)	01	TT	2288.0	P	F003 F005
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above

K. Handling Codes for Wastes Listed Above: WPS 35383

15. Special Handling Instructions and Additional Information
Emergency Response Guide # 31
24 hr. attended phone # 419 478 1211

(Rail, Cargo Tank, Portable Tank, Freight Container)
X Placarded NA 3082 Name of Placard
(Truck – 1,000 lbs. or More)
Placards Provided

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment OR if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method available to me and which I can afford.

Printed/Typed Name: R.D. SHEEHY Signature: R.D. Sheehy Date: Month 08 Day 20 Year 93

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Harvey Lance Signature: Harvey Lance Date: Month 08 Day 30 Year 93

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name Signature Date: Month Day Year

19. Discrepancy Indication Space

Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name Signature Date: Month Day Year

Form 8700-22 (3-87) DuPont Form TD-10620 Rev. 10/91

C-2/C-4 Closure - wastewater

STATE OF ARKANSAS
Department of Pollution Control and Ecology
P. O. Box 8913 Little Rock, Arkansas 72219-8913
Telephone 501-562-7444

C2/C4 Closure
Revised 9/13/93 - DRA
Sludges

Print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039. Expires 9-30-94

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: OHD005041843
Manifest Document No.: 93174
2. Page 1 of 1
Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
E.I. Du Pont De Nemours & Co. Attn: Denise Trabbic-Pointer
1930 Tremainsville Road Toledo OH 43613
4. Generator's Phone: 419-478-1211

A. State Manifest Document Number: AR- 633510
B. State Generator's ID

5. Transporter 1 Company Name: Morrow Bulk Commodities, Inc.
6. US EPA ID Number: OHD987021029
C. State Transporter's ID: AC LL85 - 664
D. Transporter's Phone: 419-836-6187

7. Transporter 2 Company Name: Morrow Bulk Commodities
8. US EPA ID Number: OHD987021029
E. State Transporter's ID: AC LL85 664
F. Transporter's Phone: 419 836 6187

9. Designated Facility Name and Site Address
Rineco
1007 Vulcan Rd.-Haskell
Benton, AR 72015
10. US EPA ID Number: ARD981057870
G. State Facility's ID
H. Facility's Phone: 501/778-9089

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. RQ Waste Flammable Liquid, N.O.S. (Toluene/n-Butyl Alcohol) Flammable Liquid UN1993 RQ (D007/D008)	103 ~~76~~	DM	16360	P	D001/D005/D007/D008 ...
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. 9209-4463 ERG#27 (WOT-17) Load#2703 9/7/93 4:00 AM

If no alternate TSDF, return to generator

K. Handling Codes for Wastes Listed Above
EMERGENCY RESPONSE INFORMATION:
Denise Trabbic-Pointer 419-478-1211
Chemtrec 800-424-9300

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and Arkansas state regulations.
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: Denise Trabbic-Pointer
Signature: Denise Trabbic-Pointer
Month Day Year: 09 03 93

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Wilber M. Allen Jr
Signature: [signature]
Month Day Year: 09 03 93

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name: James A Buote
Signature: [signature]
Month Day Year: 09 06 93

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Dale Ballard
Signature: Dale Ballard
Month Day Year: 09 09 93

EPA Form 8700-22 (Rev. 9-88) Previous edition is obsolete.

NOTICE: THE ORIGINAL AND NOT LESS THAN TWO (2) COPIES MUST MOVE WITH THE HAZARDOUS WASTE SHIPMENT. ONCE DELIVERED, THE TREATMENT/STORAGE/DISPOSAL FACILITY MUST RETURN THIS ORIGINAL COPY TO THE GENERATOR.

APPENDIX 3

ANALYTICAL DATA REPORTS

TO ENSURE PROPER HANDLING OF S ES PLEASE COMPLETE THIS ENTIRE FORM

HERITAGE LABORATORIES, INC.

4132 POMPANO ROAD
CHARLOTTE, N.C. 28216 (704) 393-1853

18138

Co. Name: DuPont AP Plant Toledo
Project Name: Tank C-2 & C-4 Closure
Quote No.: PO No.: 63033

ENVIRONMENTAL PROGRAM:
CWA NPDES_____ IWP _____ SLUDGE_____
RCRA MW_____ SW _____ DISPOSAL_____
SDWA_____ CERCLA/SUPERFUND_____ OTHER _____

Sampled by: JDR

Report To:
Co: HRLE
Add: 5656 Opportunity Dr.
Toledo, Ohio 43612
Attn: Joe Ritchey
Phone: 419-478-4396

Accelerated Turnaround Requested 1 wk
(Subject to Additional Charge) 150%
Result Request by: 9 / 1 / 93
Mo Day Yr
(Date must be Accepted and Approved by Lab.)

Sample ID:	Date:	Time:	Comp	Grab	Sample Description:	Sample Type (Matrix): DW, GW, WW, SOIL, SLUDGE, OTHER	No. of Containers	Analyses Requested (Note special detection limits or methods) VOCs	Semi VOCs	RCRA Alcohols	Remarks:	EMS Sample No.
C-2	8/23/93	3:25p		✓	FINAL RINSE TK C-2		4	✓	✓	✓		A287942
C-4		2:45p			FINAL RINSE TK C-4		4	✓	✓	✓		943
TAP		3:35p			TAP WATER USED IN RINSE		2	✓				944
FIELD		3:30p			DI WATER FILLED IN RM		2	✓				945
TRIP	↓			↓	TRIP BLANK FROM TOL		1	✓				946

Relinquished by: (Signature)	Date /Time	Received by: (Signature)	Relinquished by: (Signature)	Date /Time	Received by: (Signature)
[signature]	8/23/93 4:15p			/	
Relinquished by: (Signature)	Date /Time	Received by: (Signature)	Relinquished by: (Signature)	Date /Time	Received by: (Signature)
	/			/	
Relinquished by: (Signature)	Date /Time	Received for Lab by: (Signature)	Remarks:		
	/	S. ASKew 8/24/93 UPS			

Distribution: Original and yellow copies accompany sample to laboratory;
Pink copy retained by client; Yellow copy returned to client.

CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
HERITAGE LABORATORIES, INC. 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8305	24-AUG-93	1871	A287942
	Complete: 31-AUG-93	PO Number: 63033	
	Printed: 01-SEP-93	Sampled: 23-AUG-93 15:25	

Report To

JOE RITCHEY
HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPORTUNITY DRIVE
TOLEDO, OH 43612

Bill To

STEVE SMITH
HERITAGE TREATMENT CENTER
5656 OPPURTUNITY DRIVE
TOLEDO, OH 43612

Sample Description

SAMPLE ID: C-2
DESCRIPTION: FINAL RINSE TK C-2
LOCATION: DUPONT AP PLANT TOLEDO

VOLATILE ORGANICS SW846-8240A

Analyst: R. SHAMP Analysis Date: 27-AUG-93 16:07 Instrument: GC/MS VOA Test: 0510.3.0

Parameter	Result	Det. Limit	Units
ACETONE	130	20	ug/L
ACROLEIN	BDL	50	ug/L
ACRYLONITRILE	BDL	70	ug/L
BENZENE	BDL	5	ug/L
BROMODICHLOROMETHANE	BDL	5	ug/L
BROMOFORM	BDL	5	ug/L
BROMOMETHANE	BDL	10	ug/L
CARBON DISULFIDE	BDL	5	ug/L
CARBON TETRACHLORIDE	BDL	5	ug/L
CHLOROBENZENE	BDL	5	ug/L
CHLOROETHANE	BDL	10	ug/L
CHLOROFORM	BDL	5	ug/L
CHLOROMETHANE	BDL	10	ug/L
DIBROMOCHLOROMETHANE	BDL	5	ug/L
CIS-1,3-DICHLOROPROPENE	BDL	5	ug/L
DICHLORODIFLUOROMETHANE	BDL	5	ug/L
1,1-DICHLOROETHANE	BDL	5	ug/L
1,2-DICHLOROETHANE	BDL	5	ug/L
1,1-DICHLOROETHENE	BDL	5	ug/L
1,2-DICHLOROPROPANE	BDL	5	ug/L
ETHYLBENZENE	8	5	ug/L
FLUOROTRICHLOROMETHANE	BDL	5	ug/L
2-HEXANONE	BDL	10	ug/L
METHYLENE CHLORIDE	BDL	5	ug/L
METHYL ETHYL KETONE	BDL	10	ug/L
4-METHYL-2-PENTANONE	BDL	10	ug/L
STYRENE	BDL	5	ug/L
1,1,2,2-TETRACHLOROETHANE	BDL	5	ug/L
TETRACHLOROETHENE	BDL	5	ug/L
TETRAHYDROFURAN	BDL	25	ug/L
TOLUENE	BDL	5	ug/L
1,2-DICHLOROETHENE (TOTAL)	BDL	5	ug/L
TRANS-1,3-DICHLOROPROPENE	BDL	5	ug/L

Parameter	Result	Det. Limit	Units
1,1,1-TRICHLOROETHANE	BDL	5	ug/L
1,1,2-TRICHLOROETHANE	BDL	5	ug/L
TRICHLOROETHENE	BDL	5	ug/L
VINYL ACETATE	BDL	10	ug/L
VINYL CHLORIDE	BDL	10	ug/L
XYLENE (TOTAL)	46	5	ug/L
...			
SURROGATE RECOVERY			

DICHLOROETHANE-D4	99		% Rec
TOLUENE-D8	100		% Rec
BROMOFLUOROBENZENE	99		% Rec

On this instrument, packed column has been replaced by capillary column with 8240 criteria.

GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510A

Analyst: J. KOCH Analysis Date: 25-AUG-93 Test: P233.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	1000		mL
FINAL VOLUME	1.0		mL

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL/ACID FRACTIONS) SW846-8270A

Analyst: J. MINNIEAR, II Analysis Date: 30-AUG-93 15:26 Instrument: GC/MS SVOA Test: 0505.3.0

Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510A P233.4.0

Parameter	Result	Det. Limit	Units
ACENAPHTHENE	BDL	10	ug/L
ACENAPHTHYLENE	BDL	10	ug/L
ANTHRACENE	BDL	10	ug/L
BENZ(A)ANTHRACENE	BDL	10	ug/L
BENZO(A)PYRENE	BDL	10	ug/L
BENZO(B)FLUORANTHENE	BDL	10	ug/L
BENZO(G,H,I)PERYLENE	BDL	10	ug/L
BENZO(K)FLUORANTHENE	BDL	10	ug/L
BENZYL ALCOHOL	BDL	10	ug/L
BENZYLBUTYLPHTHALATE	BDL	10	ug/L
BIS(2-CHLOROETHOXY)METHANE	BDL	10	ug/L
BIS(2-CHLOROETHYL)ETHER	BDL	10	ug/L
BIS(2-CHLOROISOPROPYL)ETHER	BDL	10	ug/L
BIS(2-ETHYLHEXYL)PHTHALATE	13	10	ug/L
4-BROMOPHENYLPHENYLETHER	BDL	10	ug/L
CARBAZOLE	BDL	10	ug/L
4-CHLOROANILINE	BDL	10	ug/L
2-CHLORONAPHTHALENE	BDL	10	ug/L
4-CHLOROPHENYLPHENYLETHER	BDL	10	ug/L
CHRYSENE	BDL	10	ug/L
DIBENZ(A,H)ANTHRACENE	BDL	10	ug/L
DIBENZOFURAN	BDL	10	ug/L
1,2-DICHLOROBENZENE	BDL	10	ug/L
1,3-DICHLOROBENZENE	BDL	10	ug/L
1,4-DICHLOROBENZENE	BDL	10	ug/L
3,3'-DICHLOROBENZIDINE	BDL	20	ug/L
DIETHYLPHTHALATE	BDL	10	ug/L
IMETHYLPHTHALATE	BDL	10	ug/L
I-N-BUTYLPHTHALATE	BDL	10	ug/L
DINITROBENZENES	BDL	50	ug/L
2,4-DINITROTOLUENE	BDL	10	ug/L

HERITAGE LABORATORIES, INC. **Lab Sample ID: A287942**

Parameter	Result	Det. Limit	Units
2,6-DINITROTOLUENE	BDL	10	ug/L
)I-N-OCTYLPHTHALATE	BDL	10	ug/L
FLUORANTHENE	BDL	10	ug/L
FLUORENE	BDL	10	ug/L
HEXACHLOROBENZENE	BDL	10	ug/L
HEXACHLOROBUTADIENE	BDL	10	ug/L
HEXACHLOROCYCLOPENTADIENE	BDL	10	ug/L
HEXACHLOROETHANE	BDL	10	ug/L
INDENO(1,2,3-CD)PYRENE	BDL	10	ug/L
ISOPHORONE	BDL	10	ug/L
2-METHYLNAPHTHALENE	BDL	10	ug/L
NAPHTHALENE	BDL	10	ug/L
2-NITROANILINE	BDL	50	ug/L
3-NITROANILINE	BDL	50	ug/L
4-NITROANILINE	BDL	50	ug/L
NITROBENZENE	BDL	10	ug/L
N-NITROSO-DIPHENYLAMINE	BDL	10	ug/L
N-NITROSO-DI-N-PROPYLAMINE	BDL	10	ug/L
PHENANTHRENE	BDL	10	ug/L
2-PICOLINE	BDL	50	ug/L
PYRENE	BDL	10	ug/L
PYRIDINE	BDL	50	ug/L
TETRACHLOROBENZENES	BDL	10	ug/L
TOLUENEDIAMINE	BDL	50	ug/L
1,2,4-TRICHLOROBENZENE	BDL	10	ug/L
BENZOIC ACID	BDL	50	ug/L
4-CHLORO-3-METHYLPHENOL	BDL	10	ug/L
-CHLOROPHENOL	BDL	10	ug/L
,4-DICHLOROPHENOL	BDL	10	ug/L
2,4-DIMETHYLPHENOL	BDL	10	ug/L
4,6-DINITRO-2-METHYLPHENOL	BDL	50	ug/L
2,4-DINITROPHENOL	BDL	50	ug/L
2-METHYLPHENOL	BDL	10	ug/L
4-METHYLPHENOL	BDL	10	ug/L
2-NITROPHENOL	BDL	10	ug/L
4-NITROPHENOL	BDL	50	ug/L
PENTACHLOROPHENOL	BDL	50	ug/L
PHENOL	BDL	10	ug/L
TETRACHLOROPHENOL	BDL	10	ug/L
2,4,5-TRICHLOROPHENOL	BDL	50	ug/L
2,4,6-TRICHLOROPHENOL	BDL	10	ug/L
BENZOQUINONE	*		ug/L
SURROGATE RECOVERY			
2-FLUOROPHENOL	48		% Rec
PHENOL-D5	33		% Rec
NITROBENZENE-D5	78		% Rec
2-FLUOROBIPHENYL	79		% Rec
2,4,6-TRIBROMOPHENOL	82		% Rec
TERPHENYL-D14	98		% Rec

*Note: * Compound searched for but not detected. Standard was unavailable to determine retention time and detection limit.*

HERITAGE LABORATORIES, INC. Lab Sample ID: A287942

RCRA F001-F005 ALCOHOLS BY GC:FID SW846-8015A

Analyst: B. BELL Analysis Date: 26-AUG-93 Instrument: GC/FID Test: 0490.5.0

Parameter	Result	Det. Limit	Units
METHANOL	BDL	0.75	mg/L
ISOBUTANOL	BDL	5.0	mg/L
N-BUTYL ALCOHOL	BDL	5.0	mg/L
CYCLOHEXANONE	BDL	0.75	mg/L
2-ETHOXYETHANOL	BDL	5.0	mg/L
2-NITROPROPANE	BDL	5.0	mg/L

Sample Comments

** See Note for Parameter*
BDL Below Detection Limit

Sample chain of custody number 18138.

Quality Assurance Officer: _____

CERTIFICATE OF ANALYSIS

SEP 10 RECD

Service Location	Received	Project	Lab ID
HERITAGE LABORATORIES, INC. 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8305	24-AUG-93	1871	A287943
	Complete	PO Number	
	03-SEP-93	63033	
	Printed	Sampled	
	04-SEP-93	23-AUG-93 14:45	

Report To

JOE RITCHEY
HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPORTUNITY DRIVE
TOLEDO, OH 43612

Bill To

STEVE SMITH
HERITAGE TREATMENT CENTER
5656 OPPURTUNITY DRIVE
TOLEDO, OH 43612

Sample Description

SAMPLE ID: C-4
DESCRIPTION: FINAL RINSE TK C-4
LOCATION: DUPONT AP PLANT TOLEDO

VOLATILE ORGANICS SW846-8240A

Analyst: R. SHAMP Analysis Date: 27-AUG-93 16:45 Instrument: GC/MS VOA Test: 0510.3.0

Parameter	Result	Det. Limit	Units
ACETONE	EST 210	20	ug/L
ACROLEIN	BDL	50	ug/L
ACRYLONITRILE	BDL	70	ug/L
BENZENE	BDL	5	ug/L
ROMODICHLOROMETHANE	BDL	5	ug/L
BROMOFORM	BDL	5	ug/L
BROMOMETHANE	BDL	10	ug/L
CARBON DISULFIDE	BDL	5	ug/L
CARBON TETRACHLORIDE	BDL	5	ug/L
CHLOROBENZENE	BDL	5	ug/L
CHLOROETHANE	BDL	10	ug/L
CHLOROFORM	BDL	5	ug/L
CHLOROMETHANE	BDL	10	ug/L
DIBROMOCHLOROMETHANE	BDL	5	ug/L
CIS-1,3-DICHLOROPROPENE	BDL	5	ug/L
DICHLORODIFLUOROMETHANE	BDL	5	ug/L
1,1-DICHLOROETHANE	BDL	5	ug/L
1,2-DICHLOROETHANE	BDL	5	ug/L
1,1-DICHLOROETHENE	BDL	5	ug/L
1,2-DICHLOROPROPANE	BDL	5	ug/L
ETHYLBENZENE	67	5	ug/L
FLUOROTRICHLOROMETHANE	BDL	5	ug/L
2-HEXANONE	BDL	10	ug/L
METHYLENE CHLORIDE	BDL	5	ug/L
METHYL ETHYL KETONE	BDL	10	ug/L
4-METHYL-2-PENTANONE	BDL	10	ug/L
STYRENE	BDL	5	ug/L
1,1,2,2-TETRACHLOROETHANE	BDL	5	ug/L
TETRACHLOROETHENE	BDL	5	ug/L
TETRAHYDROFURAN	BDL	25	ug/L
OLUENE	46	5	ug/L
1,2-DICHLOROETHENE (TOTAL)	BDL	5	ug/L
TRANS-1,3-DICHLOROPROPENE	BDL	5	ug/L

Parameter	Result	Det. Limit	Units
1,1,1-TRICHLOROETHANE	BDL	5	ug/L
1,1,2-TRICHLOROETHANE	BDL	5	ug/L
TRICHLOROETHENE	BDL	5	ug/L
VINYL ACETATE	BDL	10	ug/L
VINYL CHLORIDE	BDL	10	ug/L
XYLENE (TOTAL)	EST 290	5	ug/L
...			
SURROGATE RECOVERY			

DICHLOROETHANE-D4	98		% Rec
TOLUENE-D8	101		% Rec
BROMOFLUOROBENZENE	101		% Rec

On this instrument, packed column has been replaced by capillary column with 8240 criteria.
Dilution necessary due to high concentration of target compounds.

VOLATILE ORGANICS SW846-8240A

Analyst: R. SHAMP Analysis Date: 29-AUG-93 09:50 Instrument: GC/MS VOA Test: 0510.3.1

Parameter	Result	Det. Limit	Units
ACETONE	170	100	ug/L
ACROLEIN	BDL	250	ug/L
ACRYLONITRILE	BDL	350	ug/L
BENZENE	BDL	25	ug/L
BROMODICHLOROMETHANE	BDL	25	ug/L
BROMOFORM	BDL	25	ug/L
BROMOMETHANE	BDL	50	ug/L
CARBON DISULFIDE	BDL	25	ug/L
CARBON TETRACHLORIDE	BDL	25	ug/L
CHLOROBENZENE	BDL	25	ug/L
CHLOROETHANE	BDL	50	ug/L
CHLOROFORM	BDL	25	ug/L
CHLOROMETHANE	BDL	50	ug/L
DIBROMOCHLOROMETHANE	BDL	25	ug/L
CIS-1,3-DICHLOROPROPENE	BDL	25	ug/L
DICHLORODIFLUOROMETHANE	BDL	25	ug/L
1,1-DICHLOROETHANE	BDL	25	ug/L
1,2-DICHLOROETHANE	BDL	25	ug/L
1,1-DICHLOROETHENE	BDL	25	ug/L
1,2-DICHLOROPROPANE	BDL	25	ug/L
ETHYLBENZENE	67	25	ug/L
FLUOROTRICHLOROMETHANE	BDL	25	ug/L
2-HEXANONE	BDL	50	ug/L
METHYLENE CHLORIDE	BDL	25	ug/L
METHYL ETHYL KETONE	BDL	50	ug/L
4-METHYL-2-PENTANONE	BDL	50	ug/L
STYRENE	BDL	25	ug/L
1,1,2,2-TETRACHLOROETHANE	BDL	25	ug/L
TETRACHLOROETHENE	BDL	25	ug/L
TETRAHYDROFURAN	BDL	120	ug/L
TOLUENE	44	25	ug/L
1,2-DICHLOROETHENE (TOTAL)	BDL	25	ug/L
TRANS-1,3-DICHLOROPROPENE	BDL	25	ug/L
,1,1-TRICHLOROETHANE	BDL	25	ug/L
,1,2-TRICHLOROETHANE	BDL	25	ug/L
TRICHLOROETHENE	BDL	25	ug/L
VINYL ACETATE	BDL	50	ug/L

Parameter	Result	Det. Limit	Units
VINYL CHLORIDE	BDL	50	ug/L
XYLENE (TOTAL)	290	25	ug/L
...			
SURROGATE RECOVERY			

DICHLOROETHANE-D4	96		% Rec
TOLUENE-D8	99		% Rec
BROMOFLUOROBENZENE	98		% Rec

On this instrument, packed column has been replaced by capillary column with 8240 criteria.
1:5 dilution.

GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510A
Analyst: J. KOCH Analysis Date: 25-AUG-93 Test: P233.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	1000		mL
FINAL VOLUME	1.0		mL

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL/ACID FRACTIONS) SW846-8270A
Analyst: G. BARRETT Analysis Date: 31-AUG-93 10:00 Instrument: GC/MS SVOA Test: 0505.3.0
Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510A P233.4.0

Parameter	Result	Det. Limit	Units
ACENAPHTHENE	BDL	10	ug/L
ACENAPHTHYLENE	BDL	10	ug/L
ANTHRACENE	BDL	10	ug/L
BENZ(A)ANTHRACENE	BDL	10	ug/L
BENZO(A)PYRENE	BDL	10	ug/L
ENZO(B)FLUORANTHENE	BDL	10	ug/L
BENZO(G,H,I)PERYLENE	BDL	10	ug/L
BENZO(K)FLUORANTHENE	BDL	10	ug/L
BENZYL ALCOHOL	BDL	10	ug/L
BENZYLBUTYLPHTHALATE	BDL	10	ug/L
BIS(2-CHLOROETHOXY)METHANE	BDL	10	ug/L
BIS(2-CHLOROETHYL)ETHER	BDL	10	ug/L
BIS(2-CHLOROISOPROPYL)ETHER	BDL	10	ug/L
BIS(2-ETHYLHEXYL)PHTHALATE	EST 7	10	ug/L
4-BROMOPHENYLPHENYLETHER	BDL	10	ug/L
CARBAZOLE	BDL	10	ug/L
4-CHLOROANILINE	BDL	10	ug/L
2-CHLORONAPHTHALENE	BDL	10	ug/L
4-CHLOROPHENYLPHENYLETHER	BDL	10	ug/L
CHRYSENE	BDL	10	ug/L
DIBENZ(A,H)ANTHRACENE	BDL	10	ug/L
DIBENZOFURAN	BDL	10	ug/L
1,2-DICHLOROBENZENE	BDL	10	ug/L
1,3-DICHLOROBENZENE	BDL	10	ug/L
1,4-DICHLOROBENZENE	BDL	10	ug/L
3,3'-DICHLOROBENZIDINE	BDL	20	ug/L
DIETHYLPHTHALATE	BDL	10	ug/L
DIMETHYLPHTHALATE	BDL	10	ug/L
DI-N-BUTYLPHTHALATE	EST 6	10	ug/L
DINITROBENZENES	BDL	50	ug/L
,4-DINITROTOLUENE	BDL	10	ug/L
,6-DINITROTOLUENE	BDL	10	ug/L
DI-N-OCTYLPHTHALATE	BDL	10	ug/L
FLUORANTHENE	BDL	10	ug/L

Parameter	Result	Det. Limit	Units
FLUORENE	BDL	10	ug/L
HEXACHLOROBENZENE	BDL	10	ug/L
HEXACHLOROBUTADIENE	BDL	10	ug/L
HEXACHLOROCYCLOPENTADIENE	BDL	10	ug/L
HEXACHLOROETHANE	BDL	10	ug/L
INDENO(1,2,3-CD)PYRENE	BDL	10	ug/L
ISOPHORONE	BDL	10	ug/L
2-METHYLNAPHTHALENE	BDL	10	ug/L
NAPHTHALENE	EST 5	10	ug/L
2-NITROANILINE	BDL	50	ug/L
3-NITROANILINE	BDL	50	ug/L
4-NITROANILINE	BDL	50	ug/L
NITROBENZENE	BDL	10	ug/L
N-NITROSO-DIPHENYLAMINE	BDL	10	ug/L
N-NITROSO-DI-N-PROPYLAMINE	BDL	10	ug/L
PHENANTHRENE	BDL	10	ug/L
2-PICOLINE	BDL	50	ug/L
PYRENE	BDL	10	ug/L
PYRIDINE	BDL	50	ug/L
TETRACHLOROBENZENES	BDL	10	ug/L
TOLUENEDIAMINE	BDL	50	ug/L
1,2,4-TRICHLOROBENZENE	BDL	10	ug/L
BENZOIC ACID	BDL	50	ug/L
4-CHLORO-3-METHYLPHENOL	BDL	10	ug/L
2-CHLOROPHENOL	BDL	10	ug/L
2,4-DICHLOROPHENOL	BDL	10	ug/L
2,4-DIMETHYLPHENOL	BDL	10	ug/L
4,6-DINITRO-2-METHYLPHENOL	BDL	50	ug/L
,4-DINITROPHENOL	BDL	50	ug/L
2-METHYLPHENOL	BDL	10	ug/L
4-METHYLPHENOL	BDL	10	ug/L
2-NITROPHENOL	BDL	10	ug/L
4-NITROPHENOL	BDL	50	ug/L
PENTACHLOROPHENOL	BDL	50	ug/L
PHENOL	BDL	10	ug/L
TETRACHLOROPHENOL	BDL	10	ug/L
2,4,5-TRICHLOROPHENOL	BDL	50	ug/L
2,4,6-TRICHLOROPHENOL	BDL	10	ug/L
BENZOQUINONE	*		ug/L
SURROGATE RECOVERY			
2-FLUOROPHENOL	48		% Rec
PHENOL-D5	37		% Rec
NITROBENZENE-D5	79		% Rec
2-FLUOROBIPHENYL	76		% Rec
2,4,6-TRIBROMOPHENOL	73		% Rec
TERPHENYL-D14	91		% Rec

*Note: * Compound searched for but not detected. Standard was unavailable to determine retention time and detection limit.*

HERITAGE LABORATORIES, INC. Lab Sample ID: A287943

RCRA F001-F005 ALCOHOLS BY GC:FID SW846-8015A

Analyst: B. BELL Analysis Date: 26-AUG-93 Instrument: GC/FID Test: 0490.5.0

Parameter	Result	Det. Limit	Units
METHANOL	1.0	0.75	mg/L
ISOBUTANOL	BDL	5.0	mg/L
N-BUTYL ALCOHOL	BDL	5.0	mg/L
CYCLOHEXANONE	BDL	0.75	mg/L
2-ETHOXYETHANOL	BDL	5.0	mg/L
2-NITROPROPANE	BDL	5.0	mg/L

Sample Comments

* *See Note for Parameter*
BDL Below Detection Limit
EST Estimated Value

Sample chain of custody number 18138.

IDEM Drinking Water Certification Number C-49-01
This Certificate shall not be reproduced, except in full, without the written approval of the lab.

Quality Assurance Officer: _____

CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
HERITAGE LABORATORIES, INC. 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8305	24-AUG-93	1871	A287944
	Complete: 31-AUG-93	PO Number: 63033	
	Printed: 31-AUG-93	Sampled: 23-AUG-93 15:35	

Report To

JOE RITCHEY
HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPORTUNITY DRIVE
TOLEDO, OH 43612

Bill To

STEVE SMITH
HERITAGE TREATMENT CENTER
5656 OPPURTUNITY DRIVE
TOLEDO, OH 43612

SEP 3 RECD

Sample Description

SAMPLE ID: TAP
DESCRIPTION: TAP WATER USED IN RINSE
LOCATION: DUPONT AP PLANT TOLEDO

VOLATILE ORGANICS SW846-8240A

Analyst: R. SHAMP Analysis Date: 27-AUG-93 17:24 Instrument: GC/MS VOA Test: 0510.3.0

Parameter	Result	Det. Limit	Units
ACETONE	BDL	20	ug/L
ACROLEIN	BDL	50	ug/L
ACRYLONITRILE	BDL	70	ug/L
ENZENE	BDL	5	ug/L
ROMODICHLOROMETHANE	9	5	ug/L
BROMOFORM	BDL	5	ug/L
BROMOMETHANE	BDL	10	ug/L
CARBON DISULFIDE	BDL	5	ug/L
CARBON TETRACHLORIDE	BDL	5	ug/L
CHLOROBENZENE	BDL	5	ug/L
CHLOROETHANE	BDL	10	ug/L
CHLOROFORM	25	5	ug/L
CHLOROMETHANE	BDL	10	ug/L
DIBROMOCHLOROMETHANE	BDL	5	ug/L
CIS-1,3-DICHLOROPROPENE	BDL	5	ug/L
DICHLORODIFLUOROMETHANE	BDL	5	ug/L
1,1-DICHLOROETHANE	BDL	5	ug/L
1,2-DICHLOROETHANE	BDL	5	ug/L
1,1-DICHLOROETHENE	BDL	5	ug/L
1,2-DICHLOROPROPANE	BDL	5	ug/L
ETHYLBENZENE	BDL	5	ug/L
FLUOROTRICHLOROMETHANE	BDL	5	ug/L
2-HEXANONE	BDL	10	ug/L
METHYLENE CHLORIDE	BDL	5	ug/L
METHYL ETHYL KETONE	BDL	10	ug/L
4-METHYL-2-PENTANONE	BDL	10	ug/L
STYRENE	BDL	5	ug/L
1,1,2,2-TETRACHLOROETHANE	BDL	5	ug/L
TETRACHLOROETHENE	BDL	5	ug/L
ETRAHYDROFURAN	BDL	25	ug/L
OLUENE	BDL	5	ug/L
1,2-DICHLOROETHENE (TOTAL)	BDL	5	ug/L
TRANS-1,3-DICHLOROPROPENE	BDL	5	ug/L

Parameter	Result	Det. Limit	Units
1,1,1-TRICHLOROETHANE	BDL	5	ug/L
1,1,2-TRICHLOROETHANE	BDL	5	ug/L
TRICHLOROETHENE	BDL	5	ug/L
VINYL ACETATE	BDL	10	ug/L
VINYL CHLORIDE	BDL	10	ug/L
XYLENE (TOTAL)	BDL	5	ug/L
...			
SURROGATE RECOVERY			

DICHLOROETHANE-D4	98		% Rec
TOLUENE-D8	101		% Rec
BROMOFLUOROBENZENE	98		% Rec

On this instrument, packed column has been replaced by capillary column with 8240 criteria.

Sample Comments

BDL Below Detection Limit

Sample chain of custody number 18138.

Quality Assurance Officer: _____

CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
HERITAGE LABORATORIES, INC. 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8305	24-AUG-93	1871	A287945
	Complete: 31-AUG-93	PO Number: 63033	
	Printed: 31-AUG-93	Sampled: 23-AUG-93 15:30	

Report To	Bill To
JOE RITCHEY HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPORTUNITY DRIVE TOLEDO, OH 43612	STEVE SMITH HERITAGE TREATMENT CENTER 5656 OPPURTUNITY DRIVE TOLEDO, OH 43612

Sample Description

SAMPLE ID: FIELD
DESCRIPTION: DI WATER FILLED IN RM
LOCATION: DUPONT AP PLANT TOLEDO

VOLATILE ORGANICS SW846-8240A

Analyst: R. SHAMP Analysis Date: 27-AUG-93 10:18 Instrument: GC/MS VOA Test: 0510.3.0

Parameter	Result	Det. Limit	Units
ACETONE	BDL	20	ug/L
ACROLEIN	BDL	50	ug/L
ACRYLONITRILE	BDL	70	ug/L
ENZENE	BDL	5	ug/L
ROMODICHLOROMETHANE	BDL	5	ug/L
ROMOFORM	BDL	5	ug/L
BROMOMETHANE	BDL	10	ug/L
CARBON DISULFIDE	BDL	5	ug/L
CARBON TETRACHLORIDE	BDL	5	ug/L
CHLOROBENZENE	BDL	5	ug/L
CHLOROETHANE	BDL	10	ug/L
CHLOROFORM	BDL	5	ug/L
CHLOROMETHANE	BDL	10	ug/L
DIBROMOCHLOROMETHANE	BDL	5	ug/L
CIS-1,3-DICHLOROPROPENE	BDL	5	ug/L
DICHLORODIFLUOROMETHANE	BDL	5	ug/L
1,1-DICHLOROETHANE	BDL	5	ug/L
1,2-DICHLOROETHANE	BDL	5	ug/L
1,1-DICHLOROETHENE	BDL	5	ug/L
1,2-DICHLOROPROPANE	BDL	5	ug/L
ETHYLBENZENE	BDL	5	ug/L
FLUOROTRICHLOROMETHANE	BDL	5	ug/L
2-HEXANONE	BDL	10	ug/L
METHYLENE CHLORIDE	BDL	5	ug/L
METHYL ETHYL KETONE	BDL	10	ug/L
4-METHYL-2-PENTANONE	BDL	10	ug/L
STYRENE	BDL	5	ug/L
1,1,2,2-TETRACHLOROETHANE	BDL	5	ug/L
TETRACHLOROETHENE	BDL	5	ug/L
ETRAHYDROFURAN	BDL	25	ug/L
OLUENE	BDL	5	ug/L
1,2-DICHLOROETHENE (TOTAL)	BDL	5	ug/L
TRANS-1,3-DICHLOROPROPENE	BDL	5	ug/L

HERITAGE LABORATORIES, INC. **Lab Sample ID: A287945**

Parameter	Result	Det. Limit	Units
1,1,1-TRICHLOROETHANE	BDL	5	ug/L
1,1,2-TRICHLOROETHANE	BDL	5	ug/L
TRICHLOROETHENE	BDL	5	ug/L
VINYL ACETATE	BDL	10	ug/L
VINYL CHLORIDE	BDL	10	ug/L
XYLENE (TOTAL)	BDL	5	ug/L
...			
SURROGATE RECOVERY			

DICHLOROETHANE-D4	96		% Rec
TOLUENE-D8	101		% Rec
BROMOFLUOROBENZENE	99		% Rec

On this instrument, packed column has been replaced by capillary column with 8240 criteria.

Sample Comments

BDL Below Detection Limit

Sample chain of custody number 18138.

IDEM Drinking Water Certification Number C-49-01

Quality Assurance Officer: _____

CERTIFICATE OF ANALYSIS

SEP 9 RECD

Service Location	Received	Project	Lab ID
HERITAGE LABORATORIES, INC. 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8305	24-AUG-93	1871	A287946
	Complete	PO Number	
	03-SEP-93	63033	
	Printed	Sampled	
	03-SEP-93	23-AUG-93	

Report To

JOE RITCHEY
HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPORTUNITY DRIVE
TOLEDO, OH 43612

Bill To

STEVE SMITH
HERITAGE TREATMENT CENTER
5656 OPPURTUNITY DRIVE
TOLEDO, OH 43612

Sample Description

SAMPLE ID: TRIP
DESCRIPTION: TRIP BLANK FROM TOL
LOCATION: DUPONT AP PLANT TOLEDO

VOLATILE ORGANICS SW846-8240A

Analyst: R. SHAMP Analysis Date: 01-SEP-93 09:07 Instrument: GC/MS VOA Test: 0510.3.0

Parameter	Result	Det. Limit	Units
ACETONE	BDL	20	ug/L
ACROLEIN	BDL	50	ug/L
ACRYLONITRILE	BDL	70	ug/L
ENZENE	BDL	5	ug/L
ROMODICHLOROMETHANE	BDL	5	ug/L
BROMOFORM	BDL	5	ug/L
BROMOMETHANE	BDL	10	ug/L
CARBON DISULFIDE	BDL	5	ug/L
CARBON TETRACHLORIDE	BDL	5	ug/L
CHLOROBENZENE	BDL	5	ug/L
CHLOROETHANE	BDL	10	ug/L
CHLOROFORM	BDL	5	ug/L
CHLOROMETHANE	BDL	10	ug/L
DIBROMOCHLOROMETHANE	BDL	5	ug/L
CIS-1,3-DICHLOROPROPENE	BDL	5	ug/L
DICHLORODIFLUOROMETHANE	BDL	5	ug/L
1,1-DICHLOROETHANE	BDL	5	ug/L
1,2-DICHLOROETHANE	BDL	5	ug/L
1,1-DICHLOROETHENE	BDL	5	ug/L
1,2-DICHLOROPROPANE	BDL	5	ug/L
ETHYLBENZENE	BDL	5	ug/L
FLUOROTRICHLOROMETHANE	BDL	5	ug/L
2-HEXANONE	BDL	10	ug/L
METHYLENE CHLORIDE	6	5	ug/L
METHYL ETHYL KETONE	BDL	10	ug/L
4-METHYL-2-PENTANONE	BDL	10	ug/L
STYRENE	BDL	5	ug/L
1,1,2,2-TETRACHLOROETHANE	BDL	5	ug/L
TETRACHLOROETHENE	BDL	5	ug/L
ETRAHYDROFURAN	BDL	25	ug/L
OLUENE	BDL	5	ug/L
1,2-DICHLOROETHENE (TOTAL)	BDL	5	ug/L
TRANS-1,3-DICHLOROPROPENE	BDL	5	ug/L

HERITAGE LABORATORIES, INC. **Lab Sample ID: A287946**

Parameter	Result	Det. Limit	Units
1,1,1-TRICHLOROETHANE	BDL	5	ug/L
1,1,2-TRICHLOROETHANE	BDL	5	ug/L
TRICHLOROETHENE	BDL	5	ug/L
VINYL ACETATE	BDL	10	ug/L
VINYL CHLORIDE	BDL	10	ug/L
XYLENE (TOTAL)	BDL	5	ug/L
...			
SURROGATE RECOVERY			

DICHLOROETHANE-D4	96		% Rec
TOLUENE-D8	100		% Rec
BROMOFLUOROBENZENE	98		% Rec

On this instrument, packed column has been replaced by capillary column with 8240 criteria.

Sample Comments

BDL Below Detection Limit

Sample chain of custody number 18138.

Quality Assurance Officer: _____

QUALITY ASSURANCE REPORT

Service Location	Received	Lab ID
HERITAGE LABORATORIES, INC. 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8305	24-AUG-93	A287943
	Complete 03-SEP-93	PO Number 63033
	Printed 07-SEP-93	Sampled 23-AUG-93 14:45

Sample Description

SAMPLE ID: C-4
DESCRIPTION: FINAL RINSE TK C-4
LOCATION: DUPONT AP PLANT TOLEDO

VOLATILE ORGANICS SW846-8240A

Analyst : R. SHAMP Analysis Date: 27-AUG-93 Instrument: GC/MS VOA Test: 0510.3.0
Reviewer: A. BRADBURN Review Date: 30-AUG-93 File ID: >2633J Run: R195306

QC Type	Identifier	Source	Parameter	True/Sampl	Spike Val	Observed	Units	% Rec	RPD
CCV	Q770498		See Attached Report g2620j.ind						
BLA01	Q770499		See Attached Report g2621j.ind						
SAMPLE	A287943		See Certificate of Analysis						
LCS01	Q770504	EMS	ACETONE	20		20.5	ug/L	102.5	
LCS01	Q770504	EMS	BENZENE	20		18.4	ug/L	92	
LCS01	Q770504	EMS	BROMODICHLOROMETHANE	20		17	ug/L	85	
LCS01	Q770504	EMS	BROMOFORM	20		14.8	ug/L	74	
LCS01	Q770504	EMS	BROMOMETHANE	20		17.6	ug/L	88	
LCS01	Q770504	EMS	CARBON DISULFIDE	20		14.6	ug/L	73	
LCS01	Q770504	EMS	CARBON TETRACHLORIDE	20		15.5	ug/L	77.5	
CS01	Q770504	EMS	CHLOROBENZENE	20		18	ug/L	90	
S01	Q770504	EMS	CHLOROETHANE	20		17.6	ug/L	88	
LCS01	Q770504	EMS	CHLOROFORM	20		17	ug/L	85	
LCS01	Q770504	EMS	CHLOROMETHANE	20		16.6	ug/L	83	
LCS01	Q770504	EMS	DIBROMOCHLOROMETHANE	20		15.7	ug/L	78.5	
LCS01	Q770504	EMS	CIS-1,3-DICHLOROPROPENE	20		17.4	ug/L	87	
LCS01	Q770504	EMS	1,1-DICHLOROETHANE	20		17.9	ug/L	89.5	
LCS01	Q770504	EMS	1,2-DICHLORDETHANE	20		19	ug/L	95	
LCS01	Q770504	EMS	1,1-DICHLOROETHENE	20		16.6	ug/L	83	
LCS01	Q770504	EMS	1,2-DICHLOROPROPANE	20		18.4	ug/L	92	
LCS01	Q770504	EMS	ETHYL BENZENE	20		17.3	ug/L	86.5	
LCS01	Q770504	EMS	FLUOROTRICHLOROMETHANE	20		16.2	ug/L	81	
LCS01	Q770504	EMS	2-HEXANONE	20		18.5	ug/L	92.5	
LCS01	Q770504	EMS	DICHLOROMETHANE (METHYLENE CHLORIDE)	20		19.1	ug/L	95.5	
LCS01	Q770504	EMS	METHYL ETHYL KETONE	20		20.3	ug/L	101.5	
LCS01	Q770504	EMS	4-METHYL-2-PENTANONE	20		14.1	ug/L	70.5	
LCS01	Q770504	EMS	STYRENE	20		17.2	ug/L	86	
LCS01	Q770504	EMS	1,1,2,2-TETRACHLOROETHANE	20		19.2	ug/L	96	
LCS01	Q770504	EMS	TETRACHLOROETHENE	20		17.4	ug/L	87	
LCS01	Q770504	EMS	TOLUENE	20		18.1	ug/L	90.5	
LCS01	Q770504	EMS	TRANS-1,3-DICHLOROPROPENE	20		17.3	ug/L	86.5	
LCS01	Q770504	EMS	1,1,1-TRICHLOROETHANE	20		17.4	ug/L	87	
LCS01	Q770504	EMS	1,1,2-TRICHLOROETHANE	20		18.3	ug/L	91.5	
LCS01	Q770504	EMS	TRICHLOROETHENE	20		17.8	ug/L	89	
LCS01	Q770504	EMS	VINYL ACETATE	20		18.5	ug/L	92.5	
LCS01	Q770504	EMS	VINYL CHLORIDE	20		16.7	ug/L	83.5	
S01	Q770504	EMS	TETRAHYDROFURAN	50		50.4	ug/L	100.8	

VOLATILE ORGANICS SW846-8240A

Analyst : R. SHAMP Analysis Date: 29-AUG-93 Instrument: GC/MS VOA Test: 0510.3.1
Reviewer: A. BRADBURN Review Date: 31-AUG-93 File ID: >2642J Run: R195446

Type	Identifier	Source	Parameter	True/Sampl	Spike Val	Observed	Units	% Rec	RPD
SPI01	Q771615	A287088	1,1-DICHLOROETHENE	0	50	51.9	ug/L	103.8	
SPI01	Q771615	A287088	TRICHLOROETHENE	0	50	54.2	ug/L	108.4	
SPI01	Q771615	A287088	BENZENE	0	50	51.9	ug/L	103.8	
SPI01	Q771615	A287088	TOLUENE	0	50	50.8	ug/L	101.6	
SPI01	Q771615	A287088	CHLOROBENZENE	0	50	50.6	ug/L	101.2	
DPS01	Q771616	A287088	1,1-DICHLOROETHENE	0	50	50.4	ug/L	100.8	2.9
DPS01	Q771616	A287088	TRICHLOROETHENE	0	50	51.9	ug/L	103.8	4.3
DPS01	Q771616	A287088	BENZENE	0	50	49.6	ug/L	99.2	4.5
DPS01	Q771616	A287088	TOLUENE	0	50	48.6	ug/L	97.2	4.4
DPS01	Q771616	A287088	CHLOROBENZENE	0	50	48.5	ug/L	97	4.2
CCV	Q771590		See Attached Report g2640j.ind						
BLA01	Q771591		See Attached Report g2641j.ind						
SAMPLE	A287943		See Certificate of Analysis						
LCS01	Q771592	EMS	ACETONE	20		23	ug/L	115	
LCS01	Q771592	EMS	BENZENE	20		20.1	ug/L	100.5	
LCS01	Q771592	EMS	BROMODICHLOROMETHANE	20		19.2	ug/L	96	
LCS01	Q771592	EMS	BROMOFORM	20		16.9	ug/L	84.5	
LCS01	Q771592	EMS	BROMOMETHANE	20		19.9	ug/L	99.5	
LCS01	Q771592	EMS	CARBON DISULFIDE	20		16.4	ug/L	82	
LCS01	Q771592	EMS	CARBON TETRACHLORIDE	20		18.7	ug/L	93.5	
LCS01	Q771592	EMS	CHLOROBENZENE	20		19.5	ug/L	97.5	
LCS01	Q771592	EMS	CHLOROETHANE	20		18.7	ug/L	93.5	
LCS01	Q771592	EMS	CHLOROFORM	20		18.2	ug/L	91	
LCS01	Q771592	EMS	CHLOROMETHANE	20		18.5	ug/L	92.5	
CS01	Q771592	EMS	DIBROMOCHLOROMETHANE	20		18	ug/L	90	
S01	Q771592	EMS	CIS-1,3-DICHLOROPROPENE	20		19	ug/L	95	
LCS01	Q771592	EMS	1,1-DICHLOROETHANE	20		19.4	ug/L	97	
LCS01	Q771592	EMS	1,2-DICHLOROETHANE	20		21.6	ug/L	108	
LCS01	Q771592	EMS	1,1-DICHLOROETHENE	20		18.2	ug/L	91	
LCS01	Q771592	EMS	1,2-DICHLOROPROPANE	20		20	ug/L	100	
LCS01	Q771592	EMS	ETHYL BENZENE	20		18.8	ug/L	94	
LCS01	Q771592	EMS	FLUOROTRICHLOROMETHANE	20		19.3	ug/L	96.5	
LCS01	Q771592	EMS	2-HEXANONE	20		18.9	ug/L	94.5	
LCS01	Q771592	EMS	DICHLOROMETHANE (METHYLENE CHLORIDE)	20		22.1	ug/L	110.5	
LCS01	Q771592	EMS	METHYL ETHYL KETONE	20		20	ug/L	100	
LCS01	Q771592	EMS	4-METHYL-2-PENTANONE	20		16	ug/L	80	
LCS01	Q771592	EMS	STYRENE	20		19	ug/L	95	
LCS01	Q771592	EMS	1,1,2,2-TETRACHLOROETHANE	20		21.5	ug/L	107.5	
LCS01	Q771592	EMS	TETRACHLOROETHENE	20		18.8	ug/L	94	
LCS01	Q771592	EMS	TOLUENE	20		19.7	ug/L	98.5	
LCS01	Q771592	EMS	TRANS-1,3-DICHLOROPROPENE	20		19.1	ug/L	95.5	
LCS01	Q771592	EMS	1,1,1-TRICHLOROETHANE	20		21.3	ug/L	106.5	
LCS01	Q771592	EMS	1,1,2-TRICHLOROETHANE	20		20.6	ug/L	103	
LCS01	Q771592	EMS	TRICHLOROETHENE	20		19.4	ug/L	97	
LCS01	Q771592	EMS	VINYL ACETATE	20		20.8	ug/L	104	
LCS01	Q771592	EMS	VINYL CHLORIDE	20		17.5	ug/L	87.5	
LCS01	Q771592	EMS	TETRAHYDROFURAN	50		50.6	ug/L	101.2	

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL/ACID FRACTIONS) SW846-8270A

Analyst : G. BARRETT Analysis Date: 31-AUG-93 Instrument: GC/MS SVOA Test: 0505.3.0

Reviewer: A. BRADBURN Review Date: 03-SEP-93 File ID: >4244F Run: R195861

Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510A

QC Type	Identifier	Source	Parameter	True/Sampl	Spike Val	Observed	Units	% Rec	RPD
SPIO2	Q767139	A287075	PHENOL	0	100	49.8	ug/L	49.8	
SPIO2	Q767139	A287075	2-CHLOROPHENOL	0	100	91.9	ug/L	91.9	
SPIO2	Q767139	A287075	1,4-DICHLOROBENZENE (P-DICHLOROBENZE	0	100	64	ug/L	64	
SPIO2	Q767139	A287075	N-NITROSO-DI-N-PROPYLAMINE	0	100	94.1	ug/L	94.1	
SPIO2	Q767139	A287075	1,2,4-TRICHLOROBENZENE	0	100	78.7	ug/L	78.7	
SPIO2	Q767139	A287075	4-CHLORO-3-METHYLPHENOL	0	100	102	ug/L	102	
SPIO2	Q767139	A287075	ACENAPHTHENE	0	100	86.4	ug/L	86.4	
SPIO2	Q767139	A287075	4-NITROPHENOL	0	100	57.8	ug/L	57.8	
SPIO2	Q767139	A287075	2,4-DINITROTOLUENE	0	100	96.3	ug/L	96.3	
SPIO2	Q767139	A287075	PENTACHLOROPHENOL	0	100	155	ug/L	155	
SPIO2	Q767139	A287075	PYRENE	0	100	98.7	ug/L	98.7	
DPSO2	Q767140	A287075	PHENOL	0	100	52.8	ug/L	52.8	5.8
DPSO2	Q767140	A287075	2-CHLOROPHENOL	0	100	86.3	ug/L	86.3	6.3
DPSO2	Q767140	A287075	1,4-DICHLOROBENZENE (P-DICHLOROBENZE	0	100	58.4	ug/L	58.4	9.2
DPSO2	Q767140	A287075	N-NITROSO-DI-N-PROPYLAMINE	0	100	87.1	ug/L	87.1	7.7
DPSO2	Q767140	A287075	1,2,4-TRICHLOROBENZENE	0	100	75.7	ug/L	75.7	3.9
DPSO2	Q767140	A287075	4-CHLORO-3-METHYLPHENOL	0	100	100	ug/L	100	2
DPSO2	Q767140	A287075	ACENAPHTHENE	0	100	87.5	ug/L	87.5	1.3
DPSO2	Q767140	A287075	4-NITROPHENOL	0	100	71.2	ug/L	71.2	20.8
DPSO2	Q767140	A287075	2,4-DINITROTOLUENE	0	100	101	ug/L	101	4.8
DPSO2	Q767140	A287075	PENTACHLOROPHENOL	0	100	158	ug/L	158	1.9
DPSO2	Q767140	A287075	PYRENE	0	100	96	ug/L	96	2.8
CCV	Q774778		See Attached Report g4243f.ind						
LA02	Q771963		See Attached Report g5493h.ind						
MPLE	A287943		See Certificate of Analysis						
LCS	Q767138	HLI	ACENAPHTHENE	100		91.6	ug/L	91.6	
LCS	Q767138	HLI	ACENAPHTHYLENE	100		75	ug/L	75	
LCS	Q767138	HLI	ANTHRACENE	100		78.3	ug/L	78.3	
LCS	Q767138	HLI	BENZO(A)PYRENE	100		89	ug/L	89	
LCS	Q767138	HLI	BENZO(B)FLUORANTHENE	100		86.6	ug/L	86.6	
LCS	Q767138	HLI	BENZO(G,H,I)PERYLENE	100		100.6	ug/L	100.6	
LCS	Q767138	HLI	BENZO(K)FLUORANTHENE	100		84.1	ug/L	84.1	
LCS	Q767138	HLI	BENZYL ALCOHOL	100		78.8	ug/L	78.8	
LCS	Q767138	HLI	BIS(2-CHLOROETHOXY)METHANE	100		87.6	ug/L	87.6	
LCS	Q767138	HLI	BIS(2-CHLOROETHYL)ETHER	100		72.7	ug/L	72.7	
LCS	Q767138	HLI	BIS(2-CHLOROISOPROPYL)ETHER	100		75.1	ug/L	75.1	
LCS	Q767138	HLI	BIS(2-ETHYLHEXYL)PHTHALATE	100		86.7	ug/L	86.7	
LCS	Q767138	HLI	4-BROMODIPHENYL ETHER	100		98.3	ug/L	98.3	
LCS	Q767138	HLI	CARBAZOLE	100		100.2	ug/L	100.2	
LCS	Q767138	HLI	4-CHLOROANILINE	100		80.3	ug/L	80.3	
LCS	Q767138	HLI	2-CHLORONAPHTHALENE	100		101.2	ug/L	101.2	
LCS	Q767138	HLI	4-CHLOROPHENYL-PHENYLETHER	100		86.9	ug/L	86.9	
LCS	Q767138	HLI	CHRYSENE	100		89.4	ug/L	89.4	
LCS	Q767138	HLI	DIBENZ(A,H)ANTHRACENE	100		100.2	ug/L	100.2	
LCS	Q767138	HLI	DIBENZOFURAN	100		91.2	ug/L	91.2	
LCS	Q767138	HLI	1,2-DICHLOROBENZENE (O-DICHLOROBENZE	100		62.1	ug/L	62.1	
LCS	Q767138	HLI	1,3-DICHLOROBENZENE (M-DICHLOROBENZE	100		64.7	ug/L	64.7	
LCS	Q767138	HLI	1,4-DICHLOROBENZENE (P-DICHLOROBENZE	100		63.8	ug/L	63.8	
LCS	Q767138	HLI	3,3'-DICHLOROBENZIDINE	100		101.6	ug/L	101.6	
S	Q767138	HLI	DIETHYLPHTHALATE	100		89.2	ug/L	89.2	
S	Q767138	HLI	DIMETHYLPHTHALATE	100		72.8	ug/L	72.8	
LCS	Q767138	HLI	DI-N-BUTYLPHTHALATE	100		86.5	ug/L	86.5	
LCS	Q767138	HLI	2,4-DINITROTOLUENE	100		111.8	ug/L	111.8	

QC Type	Identifier	Source	Parameter	True/Sampl	Spike Val	Observed	Units	% Rec	RPD
LCS	Q767138	HLI	2,6-DINITROTOLUENE	100		99.7	ug/L	99.7	
CS	Q767138	HLI	DI-N-OCTYLPHTHALATE	100		83.9	ug/L	83.9	
S	Q767138	HLI	FLUORANTHENE	100		93	ug/L	93	
LCS	Q767138	HLI	FLUORENE	100		89.5	ug/L	89.5	
LCS	Q767138	HLI	HEXACHLOROBENZENE	100		102	ug/L	102	
LCS	Q767138	HLI	HEXACHLOROBUTADIENE	100		72.8	ug/L	72.8	
LCS	Q767138	HLI	HEXACHLOROCYCLOPENTADIENE	100		42.9	ug/L	42.9	
LCS	Q767138	HLI	HEXACHLOROETHANE	100		61.4	ug/L	61.4	
LCS	Q767138	HLI	INDENO(1,2,3-CD)PYRENE	100		91.3	ug/L	91.3	
LCS	Q767138	HLI	ISOPHORONE	100		100	ug/L	100	
LCS	Q767138	HLI	2-METHYLNAPHTHALENE	100		84.2	ug/L	84.2	
LCS	Q767138	HLI	NAPHTHALENE	100		77.4	ug/L	77.4	
LCS	Q767138	HLI	2-NITROANILINE (O-NITROANILINE)	100		94	ug/L	94	
LCS	Q767138	HLI	3-NITROANILINE (M-NITROANILINE)	100		101.3	ug/L	101.3	
LCS	Q767138	HLI	4-NITROANILINE (P-NITROANILINE)	100		113.3	ug/L	113.3	
LCS	Q767138	HLI	NITROBENZENE	100		82.9	ug/L	82.9	
LCS	Q767138	HLI	N-NITROSODIPHENYLAMINE	100		153.1	ug/L	153.1	
LCS	Q767138	HLI	N-NITROSO-DI-N-PROPYLAMINE	100		92.8	ug/L	92.8	
LCS	Q767138	HLI	PHENANTHRENE	100		84.9	ug/L	84.9	
LCS	Q767138	HLI	2-PICOLINE	100		29.2	ug/L	29.2	
LCS	Q767138	HLI	PYRENE	100		90	ug/L	90	
LCS	Q767138	HLI	PYRIDINE	100		49.5	ug/L	49.5	
LCS	Q767138	HLI	TOLUENEDIAMINE	100		82.1	ug/L	82.1	
LCS	Q767138	HLI	1,2,4-TRICHLOROBENZENE	100		73.9	ug/L	73.9	
LCS	Q767138	HLI	BENZOIC ACID	100		0	ug/L	0	
LCS	Q767138	HLI	4-CHLORO-3-METHYLPHENOL	100		93.7	ug/L	93.7	
LCS	Q767138	HLI	2-CHLOROPHENOL	100		80	ug/L	80	
CS	Q767138	HLI	2,4-DICHLOROPHENOL	100		85.7	ug/L	85.7	
S	Q767138	HLI	2,4-DIMETHYLPHENOL	100		86	ug/L	86	
LCS	Q767138	HLI	2,4-DINITROPHENOL	100		79.9	ug/L	79.9	
LCS	Q767138	HLI	2-METHYLPHENOL (O-CRESOL)	100		78.5	ug/L	78.5	
LCS	Q767138	HLI	4-METHYLPHENOL (P-CRESOL)	100		68.5	ug/L	68.5	
LCS	Q767138	HLI	2-NITROPHENOL	100		89.9	ug/L	89.9	
LCS	Q767138	HLI	4-NITROPHENOL	100		54.2	ug/L	54.2	
LCS	Q767138	HLI	PENTACHLOROPHENOL	100		131.3	ug/L	131.3	
LCS	Q767138	HLI	PHENOL	100		38	ug/L	38	
LCS	Q767138	HLI	2,4,5-TRICHLOROPHENOL	100		86.1	ug/L	86.1	
LCS	Q767138	HLI	2,4,6-TRICHLOROPHENOL	100		93.4	ug/L	93.4	

RCRA F001-F005 ALCOHOLS BY GC:FID SW846-8015A

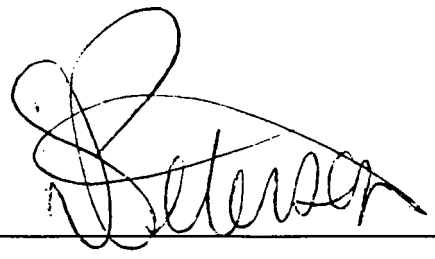
Analyst : B. BELL Analysis Date: 26-AUG-93 Instrument: GC/FID Test: 0490.5.0
Reviewer: B. MAZUR Review Date: 27-AUG-93 File ID: 455 Run: R195273

QC Type	Identifier	Source	Parameter	True/Sampl	Spike Val	Observed	Units	% Rec	RPD
ICV01	Q770248		METHANOL	24.88		23.8	mg/L	95.7	
ICV01	Q770248		ISOBUTANOL	25.33		24	mg/L	94.7	
ICV01	Q770248		2-NITROPROPANE	50		51.5	mg/L	103	
ICV01	Q770248		N-BUTYL ALCOHOL	25.63		26.3	mg/L	102.6	
ICV01	Q770248		2-ETHOXYETHANOL	25		22.9	mg/L	91.6	
ICV01	Q770248		CYCLOHEXANONE	30.33		30.7	mg/L	101.2	
SPI01	Q770249	A287942	METHANOL	0	24.88	23.1	mg/L	92.8	
SPI01	Q770249	A287942	ISOBUTANOL	0	25.33	22.9	mg/L	90.4	
SPI01	Q770249	A287942	2-NITROPROPANE	0	50	46.9	mg/L	93.8	
SPI01	Q770249	A287942	N-BUTYL ALCOHOL	0	25.63	25.7	mg/L	100.3	
I01	Q770249	A287942	2-ETHOXYETHANOL	0	25	22.6	mg/L	90.4	
I01	Q770249	A287942	CYCLOHEXANONE	0	30.33	29.2	mg/L	96.3	
DPS01	Q770250	A287942	METHANOL	0	24.88	22	mg/L	88.4	4.9
DPS01	Q770250	A287942	ISOBUTANOL	0	25.33	23.4	mg/L	92.4	2.2

QC Type	Identifier	Source	Parameter	True/Sampl	Spike Val	Observed	Units	% Rec	RPD
DPS01	Q770250	A287942	2-NITROPROPANE	0	50	49.6	mg/L	99.2	5.6
DPS01	Q770250	A287942	N-BUTYL ALCOHOL	0	25.63	26	mg/L	101.4	1.1
S01	Q770250	A287942	2-ETHOXYETHANOL	0	25	22.6	mg/L	90.4	0
DPS01	Q770250	A287942	CYCLOHEXANONE	0	30.33	30.9	mg/L	101.9	5.7
BLA01	Q770247		METHANOL			BDL	mg/L		
BLA01	Q770247		ISOBUTANOL			BDL	mg/L		
BLA01	Q770247		2-NITROPROPANE			BDL	mg/L		
BLA01	Q770247		N-BUTYL ALCOHOL			BDL	mg/L		
BLA01	Q770247		2-ETHOXYETHANOL			BDL	mg/L		
BLA01	Q770247		CYCLOHEXANONE			BDL	mg/L		
SAMPLE	A287943		See Certificate of Analysis						
CCV	Q770251		METHANOL	24.88		23.8	mg/L	95.7	
CCV	Q770251		ISOBUTANOL	25.33		24.7	mg/L	97.5	
CCV	Q770251		2-NITROPROPANE	25		25.4	mg/L	101.6	
CCV	Q770251		N-BUTYL ALCOHOL	25.63		25.1	mg/L	97.9	
CCV	Q770251		2-ETHOXYETHANOL	25		24.7	mg/L	98.8	
CCV	Q770251		CYCLOHEXANONE	30.33		30	mg/L	98.9	

Notes

BDL Below Detection Limit

Quality Assurance Officer: 

Heritage Laboratory, Indianapolis
Volatile Continuing Calibration Report

Operator ID: REGINA Date Acquired: 27 Aug 93 7:51 am
ta File: C:\I082793\2620J.D GCMS#9 Misc. CALIBRATION CHECK 8/27/93
thod: VOLCLP1 Title: QUANTITATION FOR VOLATILES
Last Calibration Update: Thu Aug 26 08:41:40 1993

C = CCC Max Dev = 25% P = SPCC Min RF = 0.05
S = Surrogate I = ISTD M = Matrix Spike Compound

cal20 = 1941J.D cal50 = 1942J.D cal100 = 1943J.D
cal150 = 1944J.D cal200 = 1945J.D

PK#		Compound	AvgRRF	CCRRF	%Dev
1	I	BROMOCHLOROMETHANE	1.000	1.000	0.0
2	T	Dichlorodifluoromethane	1.207	0.791	34.5
3	P	Chloromethane	0.901	0.772	14.3
4	C	Vinyl Chloride	0.774	0.786	1.5
5		Bromomethane	1.090	1.109	1.8
6		Chloroethane	0.410	0.534	30.4
7		Trichlorofluoromethane	2.175	2.088	4.0
8		Diethyl ether	0.534	0.612	14.7
9		Acrolein	0.037	0.003#	92.4
10		Acetone	0.233	0.261	12.2
11		Trichlorotrifluoroethane	2.084	2.109	1.2
12	CM	1,1-Dichloroethene	1.092	1.270	16.2
13		Methylene Chloride	1.249	1.421	13.8
14		Acrylonitrile	0.242	0.331	36.7
15		Carbon Disulfide	2.495	2.936	17.7
6		Vinyl acetate	0.583	0.570	2.3
7		Methyl-t-butyl ether	2.240	2.285	2.0
.8		1,2-Dichloroethene(trans)	1.380	1.529	10.8
19		Diisopropyl ether	4.289	4.741	10.5
20	P	1,1-Dichloroethane	2.596	2.668	2.8
21		2-Butanone	0.376	0.453	20.4
22		Ethyl acetate	1.044	1.114	6.7
23	C	1,2-Dichloroethene(cis)	1.498	1.463	2.4
24		Chloroform	3.118	2.962	5.0
25		Tetrahydrofuran	0.281	0.290	3.2
26	S	1,2-Dichloroethane-d4	1.367	1.281	6.3
27	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0
28		1,1,1-Trichloroethane	0.630	0.583	7.6
29		Carbon Tetrachloride	0.575	0.507	11.9
30		1,2-Dichloroethane	0.437	0.381	12.6
31	CM	Benzene	0.894	0.906	1.4
32	M	Trichloroethene	0.560	0.503	10.2
33	C	1,2-Dichloropropane	0.448	0.455	1.5
34		Bromodichloromethane	0.777	0.714	8.1
35		2-Chloroethylvinylether	0.221	0.178	19.5
36		4-Methyl-2-Pentanone	0.491	0.507	3.2
37		cis-1,3-Dichloropropene	0.661	0.664	0.4
38	S	Toluene-d8	0.930	0.919	1.2
39	CM	Toluene	0.665	0.695	4.5
40		trans-1,3-Dichloropropene	0.483	0.472	2.2
41	I	CHLOROBENZENE-d5	1.000	1.000	0.0
2		2-Hexanone	0.276	0.290	5.0
3		1,1,2-Trichloroethane	0.512	0.490	4.3

Heritage Laboratory, Indianapolis
Volatile Continuing Calibration Report

)perator ID: REGINA Date Acquired: 27 Aug 93 7:51 am
'ata File: C:\I082793\2620J.D GCMS#9 Misc. CALIBRATION CHECK 8/27/93
thod: VOLCLP1 Title: QUANTITATION FOR VOLATILES
..st Calibration Update: Thu Aug 26 08:41:40 1993

C = CCC Max Dev = 25% P = SPCC Min RF = 0.05
S = Surrogate I = ISTD M = Matrix Spike Compound

cal20 = 1941J.D cal50 = 1942J.D cal100 = 1943J.D
cal150 = 1944J.D cal200 = 1945J.D

PK#		Compound	AvgRRF	CCRRF	%Dev
44		Tetrachloroethene	0.576	0.535	7.1
45		Dibromochloromethane	0.863	0.813	5.8
46	PM	Chlorobenzene	1.117	1.093	2.1
47	C	Ethylbenzene	0.459	0.478	4.2
48		Xylene(m,p)	0.555	0.609	9.7
49		Xylene(o)	0.571	0.593	3.9
50		Styrene	1.017	1.075	5.7
51	P	Bromoform	0.626	0.598	4.5
52	P	1,1,2,2-Tetrachloroethane	0.620	0.674	8.7
53	S	Bromofluorobenzene	0.874	0.827	5.4
54		1,3-Dichlorobenzene	0.971	0.998	2.8
55		1,4-Dichlorobenzene	1.013	1.019	0.6
56		1,2-Dichlorobenzene	0.944	0.944	0.0

(#) = Out of Range 2600J.D VOLCLP1.M Fri Aug 27 08:29:22 1993 FMGR

HERITAGE LABORATORIES, INC
VOLATILES ANALYSIS-WATER METHOD BLANK
ANALYSIS METHOD: SW846-8240

MASS SPEC FILE: >2621J
ANALYSIS DATE/TIME: 8/27/93 8:45

TARGET COMPOUND LIST	RESULT	UNITS	DET. LIMIT
Acetone	BDL	uG/L	20
Acrolein	BDL	uG/L	50
Acrylonitrile	BDL	uG/L	70
Benzene	BDL	uG/L	5
Bromodichloromethane	BDL	uG/L	5
Bromoform	BDL	uG/L	5
Bromomethane	BDL	uG/L	10
Carbon disulfide	BDL	uG/L	5
Carbon tetrachloride	BDL	uG/L	5
Chlorobenzene	BDL	uG/L	5
Chloroethane	BDL	uG/L	10
Chloroform	BDL	uG/L	5
Chloromethane	BDL	uG/L	10
Dibromochloromethane	BDL	uG/L	5
cis-1,3-Dichloropropene	BDL	uG/L	5
Dichlorodifluoromethane	BDL	uG/L	5
1,1-Dichloroethane	BDL	uG/L	5
1,2-Dichloroethane	BDL	uG/L	5
1,1-Dichloroethene	BDL	uG/L	5
1,2-Dichloropropane	BDL	uG/L	5
Ethylbenzene	BDL	uG/L	5
Fluorotrichloromethane	BDL	uG/L	5
2-Hexanone	BDL	uG/L	10
Methylene chloride	BDL	uG/L	5
Methyl ethyl ketone	BDL	uG/L	10
4-Methyl-2-pentanone	BDL	uG/L	10
Styrene	BDL	uG/L	5
1,1,2,2-Tetrachloroethane	BDL	uG/L	5
Tetrachloroethene	BDL	uG/L	5
Tetrahydrofuran	BDL	uG/L	25
Toluene	BDL	uG/L	5
1,2-Dichloroethene (total)	BDL	uG/L	5
trans-1,3-Dichloropropene	BDL	uG/L	5
1,1,1-Trichloroethane	BDL	uG/L	5
1,1,2-Trichloroethane	BDL	uG/L	5
Trichloroethene	BDL	uG/L	5
Vinyl acetate	BDL	uG/L	10
Vinyl chloride	BDL	uG/L	10
Xylenes (total)	BDL	uG/L	5

SURROGATE LIST			spike conc
Dichloroethane-d4	96	% Rec	50
Toluene-d8	100	% Rec	50
Bromofluorobenzene	98	% Rec	50

( ) = ESTIMATED CONCENTRATION

NOTE: On this instrument, packed column has been replaced by capillary column with 8240 criteria.

Heritage Laboratory, Indianapolis
Volatile Continuing Calibration Report

Operator ID: REGINA Date Acquired: 29 Aug 93 7:59 am
Data File: C:\I082993\2640J.D GCMS#9 Misc. CALIBRATION CHECK 8/29/93
Method: VOLCLP1 Title: QUANTITATION FOR VOLATILES
Last Calibration Update: Sun Aug 29 08:38:14 1993

C = CCC Max Dev = 25% P = SPCC Min RF = 0.05
S = Surrogate I = ISTD M = Matrix Spike Compound

cal20 = 1941J.D cal50 = 1942J.D cal100 = 1943J.D
cal150 = 1944J.D cal200 = 1945J.D

PK#		Compound	AvgRRF	CCRRF	%Dev
1	I	BROMOCHLOROMETHANE	1.000	1.000	0.0
2	T	Dichlorodifluoromethane	1.207	0.567	53.1
3	P	Chloromethane	0.901	0.676	24.9
4	C	Vinyl Chloride	0.774	0.710	8.2
5		Bromomethane	1.090	1.035	5.0
6		Chloroethane	0.410	0.504	22.9
7		Trichlorofluoromethane	2.175	1.953	10.2
8		Diethyl ether	0.534	0.631	18.2
9		Acrolein	0.037	0.001#	97.3
10		Acetone	0.233	0.251	7.7
11		Trichlorotrifluoroethane	2.084	2.192	5.1
12	CM	1,1-Dichloroethene	1.092	1.233	12.9
13		Methylene Chloride	1.249	1.428	14.3
14		Acrylonitrile	0.242	0.292	20.5
15		Carbon Disulfide	2.495	2.832	13.5
16		Vinyl acetate	0.583	0.566	2.9
7		Methyl-t-butyl ether	2.240	2.292	2.3
8		1,2-Dichloroethene(trans)	1.380	1.517	9.9
19		Diisopropyl ether	4.289	4.931	15.0
20	P	1,1-Dichloroethane	2.596	2.704	4.2
21		2-Butanone	0.376	0.478	27.2
22		Ethyl acetate	1.044	1.131	8.4
23	C	1,2-Dichloroethene(cis)	1.498	1.472	1.7
24		Chloroform	3.118	3.097	0.7
25		Tetrahydrofuran	0.281	0.303	8.0
26	S	1,2-Dichloroethane-d4	1.367	1.289	5.7
27	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0
28		1,1,1-Trichloroethane	0.630	0.572	9.2
29		Carbon Tetrachloride	0.575	0.496	13.8
30		1,2-Dichloroethane	0.437	0.373	14.6
31	CM	Benzene	0.894	0.910	1.8
32	M	Trichloroethene	0.560	0.504	10.0
33	C	1,2-Dichloropropane	0.448	0.469	4.6
34		Bromodichloromethane	0.777	0.725	6.7
35		2-Chloroethylvinylether	0.221	0.136	38.4
36		4-Methyl-2-Pentanone	0.491	0.479	2.4
37		cis-1,3-Dichloropropene	0.661	0.676	2.2
38	S	Toluene-d8	0.930	0.929	0.1
39	CM	Toluene	0.665	0.704	5.9
40		trans-1,3-Dichloropropene	0.483	0.479	0.9
41	I	CHLOROBENZENE-d5	1.000	1.000	0.0
2		2-Hexanone	0.276	0.292	5.9
3		1,1,2-Trichloroethane	0.512	0.497	3.0

Heritage Laboratory, Indianapolis
Volatile Continuing Calibration Report

Operator ID: REGINA Date Acquired: 29 Aug 93 7:59 am
Data File: C:\I082993\2640J.D GCMS#9 Misc. CALIBRATION CHECK 8/29/93
Method: VOLCLP1 Title: QUANTITATION FOR VOLATILES
Last Calibration Update: Sun Aug 29 08:38:14 1993

C = CCC Max Dev = 25% P = SPCC Min RF = 0.05
S = Surrogate I = ISTD M = Matrix Spike Compound

cal20 = 1941J.D cal50 = 1942J.D cal100 = 1943J.D
cal150 = 1944J.D cal200 = 1945J.D

PK#		Compound	AvgRRF	CCRRF	%Dev
44		Tetrachloroethene	0.576	0.525	8.9
45		Dibromochloromethane	0.863	0.802	7.1
46	PM	Chlorobenzene	1.117	1.089	2.5
47	C	Ethylbenzene	0.459	0.484	5.7
48		Xylene(m,p)	0.555	0.601	8.3
49		Xylene(o)	0.571	0.591	3.5
50		Styrene	1.017	1.065	4.7
51	P	Bromoform	0.626	0.588	6.1
52	P	1,1,2,2-Tetrachloroethane	0.620	0.663	6.9
53	S	Bromofluorobenzene	0.874	0.837	4.2
54		1,3-Dichlorobenzene	0.971	1.001	3.0
55		1,4-Dichlorobenzene	1.013	1.004	0.9
56		1,2-Dichlorobenzene	0.944	0.927	1.8

(#) = Out of Range 2640J.D VOLCLP1.M Sun Aug 29 08:38:57 1993 FMGR

HERITAGE LABORATORIES, INC
VOLATILES ANALYSIS-WATER METHOD BLANK
ANALYSIS METHOD: SW846-8240

MASS SPEC FILE: >2641J
ANALYSIS DATE/TIME: 8/29/93 8:54

TARGET COMPOUND LIST	RESULT	UNITS	DET. LIMIT
Acetone	BDL	uG/L	20
Acrolein	BDL	uG/L	50
Acrylonitrile	BDL	uG/L	70
Benzene	BDL	uG/L	5
Bromodichloromethane	BDL	uG/L	5
Bromoform	BDL	uG/L	5
Bromomethane	BDL	uG/L	10
Carbon disulfide	BDL	uG/L	5
Carbon tetrachloride	BDL	uG/L	5
Chlorobenzene	BDL	uG/L	5
Chloroethane	BDL	uG/L	10
Chloroform	BDL	uG/L	5
Chloromethane	BDL	uG/L	10
Dibromochloromethane	BDL	uG/L	5
cis-1,3-Dichloropropene	BDL	uG/L	5
Dichlorodifluoromethane	BDL	uG/L	5
1,1-Dichloroethane	BDL	uG/L	5
1,2-Dichloroethane	BDL	uG/L	5
1,1-Dichloroethene	BDL	uG/L	5
1,2-Dichloropropane	BDL	uG/L	5
Ethylbenzene	BDL	uG/L	5
Fluorotrichloromethane	BDL	uG/L	5
2-Hexanone	BDL	uG/L	10
Methylene chloride	BDL	uG/L	5
Methyl ethyl ketone	BDL	uG/L	10
4-Methyl-2-pentanone	BDL	uG/L	10
Styrene	BDL	uG/L	5
1,1,2,2-Tetrachloroethane	BDL	uG/L	5
Tetrachloroethene	BDL	uG/L	5
Tetrahydrofuran	BDL	uG/L	25
Toluene	BDL	uG/L	5
1,2-Dichloroethene (total)	BDL	uG/L	5
trans-1,3-Dichloropropene	BDL	uG/L	5
1,1,1-Trichloroethane	BDL	uG/L	5
1,1,2-Trichloroethane	BDL	uG/L	5
Trichloroethene	BDL	uG/L	5
Vinyl acetate	BDL	uG/L	10
Vinyl chloride	BDL	uG/L	10
Xylenes (total)	BDL	uG/L	5

SURROGATE LIST			spike conc
Dichloroethane-d4	96	% Rec	50
Toluene-d8	100	% Rec	50
Bromofluorobenzene	97	% Rec	50

( ) = ESTIMATED CONCENTRATION

NOTE: On this instrument, packed column has been replaced by capillary column with 8240 criteria.

Heritage Laboratory, Indianapolis
Semi-volatile Continuing Calibration Report

Operator ID: Date Acquired: 31 Aug 93 9:04 am
Data File: C:\F083193\4243F.D GCMS#6
Misc. 50 ug/mL
Method: CALPEST.M Title: CLP BNA Calibration
Last Calibration Update: Tue Aug 31 11:18:31 1993

C = CCC Max Dev = 25% P = SPCC Min RF = 0.05
S = Surrogate I = ISTD M = Matrix Spike Compound
cal20 = 4124F.D cal50 = 4123F.D cal80 = 4126F.D
cal120 = 4125F.D cal160 = 4122F.D

PK#		Compound	AvgRRF	CCRRF	%Dev
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0
2		N-nitroso-dimethylamine	0.678	0.666	1.8
3		Pyridine	0.816	0.886	8.6
4		2-Picoline	0.936	0.889	5.0
5	S	2-Fluorophenol	0.869	0.892	2.6
6		Aniline	1.385	1.651	19.2
7	S	Phenol-d5	1.090	1.144	4.9
8	MC	Phenol	1.239	1.367	10.3#
9		bis(2-Chloroethyl)ether	1.029	1.140	10.7
10	S	2-Chlorophenol-d4	0.937	0.971	3.6
11	MC	2-Chlorophenol	1.180	1.233	4.4#
12		1,3-Dichlorobenzene	1.328	1.453	9.4
13	MC	1,4-Dichlorobenzene	1.349	1.508	11.8#
14	S	1,2-Dichlorobenzene-d4	1.465	1.508	2.9
15		1,2-Dichlorobenzene	1.209	1.373	13.6
16		Benzyl alcohol	0.619	0.684	10.5
7		2-Methylphenol	0.856	0.914	6.7
8		bis(2-chloroisopropyl)ether	1.835	2.316	26.2#
19	MP	n-Nitroso-di-n-propylamine	0.846	0.902	6.7
20		4-Methylphenol	0.933	1.008	8.0
21		Hexachloroethane	0.592	0.677	14.4
22	I	Naphthalene-d8	1.000	1.000	0.0
23	S	Nitrobenzene-d5	0.333	0.372	11.9
24		Nitrobenzene	0.356	0.397	11.6
25		Isophorone	0.691	0.717	3.8
26	C	2-Nitrophenol	0.216	0.236	9.2#
27		2,4-Dimethylphenol	0.330	0.338	2.7
28		bis(2-Chloroethoxy)methane	0.435	0.458	5.3
29	C	2,4-Dichlorophenol	0.329	0.331	0.6#
30		Benzoic acid	0.209	0.185	11.5
31	M	1,2,4-Trichlorobenzene	0.348	0.351	1.1
32		Naphthalene	0.981	1.044	6.4
33		4-Chloroaniline	0.281	0.454	61.5#
34		Toluenediamine	0.011	0.004	64.5#
35	C	Hexachlorobutadiene	0.251	0.242	3.6#
36	MC	4-Chloro-3-methylphenol	0.315	0.327	3.7#
37		2-Methylnaphthalene	0.624	0.677	8.5
38	I	Acenaphthene-d10	1.000	1.000	0.0
39	P	Hexachlorocyclopentadiene	0.307	0.259	15.6
40		1,2,4,5-Tetrachlorobenzene	0.631	0.680	7.6
41	C	2,4,6-Trichlorophenol	0.406	0.423	4.1#
42		2,4,5-Trichlorophenol	0.435	0.460	5.6
3	S	2-Fluorobiphenyl	1.148	1.266	10.3

Heritage Laboratory, Indianapolis
Semi-volatile Continuing Calibration Report

)perator ID: Date Acquired: 31 Aug 93 9:04 am
)ata File: C:\F083193\4243F.D GCMS#6
sc. 50 ug/mL
thod: CALPEST.M Title: CLP BNA Calibration
.ast Calibration Update: Tue Aug 31 11:18:31 1993

C = CCC Max Dev = 25% P = SPCC Min RF = 0.05
S = Surrogate I = ISTD M = Matrix Spike Compound
cal20 = 4124F.D cal50 = 4123F.D cal80 = 4126F.D
cal120 = 4125F.D cal160 = 4122F.D

PK#		Compound	AvgRRF	CCRRF	%Dev
44		2-Chloronaphthalene	1.102	1.192	8.2
45		2-Nitroaniline	0.364	0.439	20.8
46		Dimethylphthalate	1.363	1.396	2.4
47		1,3-Dinitrobenzene	0.226	0.262	15.5
48		2,6-Dinitrotoluene	0.354	0.380	7.3
49		Acenaphthylene	1.775	1.913	7.8
50		3-Nitroaniline	0.338	0.415	22.9
51	MC	Acenaphthene	1.095	1.160	5.9#
52	P	2,4-Dinitrophenol	0.154	0.167	8.3
53	MP	4-Nitrophenol	0.181	0.146	19.3
54		Dibenzofuran	1.552	1.665	7.3
55	M	2,4-Dinitrotoluene	0.453	0.492	8.6
56		2,3,4,6-Tetrachlorophenol	0.406	0.377	7.2
57		Diethylphthalate	1.550	1.505	3.0
58		Fluorene	1.235	1.326	7.4
59		4-Chlorophenyl-phenylether	0.692	0.732	5.7
0		4-Nitroaniline	0.387	0.437	13.0
ol	I	Phenanthrene-d10	1.000	1.000	0.0
62		4,6-Dinitro-2-methylphenol	0.138	0.157	13.9
63	C	n-Nitrosodiphenylamine	0.432	0.452	4.7#
64	S	2,4,6-Tribromophenol	0.155	0.123	20.8
65		alpha-BHC	0.138	0.134	3.4
66		4-Bromophenyl-phenylether	0.225	0.219	2.6
67		Hexachlorobenzene	0.318	0.242	24.1
68		beta-BHC	0.124	0.103	16.8
69	MC	Pentachlorophenol	0.151	0.131	13.2#
70		gamma-BHC	0.129	0.118	8.6
71		Phenanthrene	0.929	1.004	8.0
72		Anthracene	0.973	1.049	7.8
73		delta-BHC	0.121	0.103	14.6
74		Carbazole	0.728	0.860	18.1
75		Heptachlor	0.131	0.120	8.4
76		Di-n-butylphthalate	1.274	1.389	9.0
77		Aldrin	0.092	0.076	17.8
78		Heptachlor epoxide	0.040	0.045	11.5
79	C	Fluoranthene	1.065	1.190	11.8#
80	I	Chrysene-d12	1.000	1.000	0.0
81		Benzidine	0.308	0.369	20.0
82	M	Pyrene	1.235	1.124	9.0
83		alpha-Endosulfan	0.044	0.027	38.6#
84		p,p'-DDE	0.295	0.213	27.7#
^5	S	Terphenyl-d14	0.947	0.807	14.8
		Dieldrin	0.185	0.178	4.3

Heritage Laboratory, Indianapolis
Semi-volatile Continuing Calibration Report

Operator ID: Date Acquired: 31 Aug 93 9:04 am
Data File: C:\F083193\4243F.D GCMS#6
Misc. 50 ug/mL
Method: CALPEST.M Title: CLP BNA Calibration
Last Calibration Update: Tue Aug 31 11:18:31 1993

C = CCC Max Dev = 25% P = SPCC Min RF = 0.05
S = Surrogate I = ISTD M = Matrix Spike Compound
cal20 = 4124F.D cal50 = 4123F.D cal80 = 4126F.D
cal120 = 4125F.D cal160 = 4122F.D

PK#		Compound	AvgRRF	CCRRF	%Dev
87		Endrin	0.014	0.011	18.9
88		Endrin aldehyde	0.001	0.000	76.3#
89		beta-Endosulfan	0.048	0.041	14.5
90		p,p'-DDD	0.464	0.394	15.1
91		Butylbenzylphthalate	0.649	0.661	1.9
92		Endosulfan sulfate	0.090	0.077	14.6
93		p,p'-DDT	0.355	0.337	5.2
94		Benzo[a]anthracene	1.084	1.135	4.7
95		3,3'-Dichlorobenzidine	0.267	0.434	62.6#
96		Chrysene	0.938	1.037	10.5
97		bis(2-Ethylhexyl)phthalate	0.823	0.921	11.9
98	I	Perylene-d12	1.000	1.000	0.0
99	C	Di-n-octylphthalate	1.837	1.815	1.2#
100		Benzo[b]fluoranthene	1.250	1.265	1.2
101		Benzo[k]fluoranthene	1.205	1.259	4.5
2	C	Benzo[a]pyrene	1.126	1.222	8.5#
3		Indeno[1,2,3-cd]pyrene	1.139	1.235	8.4
104		Dibenz[a,h]anthracene	0.956	0.971	1.6
105		Benzo[g,h,i]perylene	0.952	0.984	3.3

(#) = Out of Range SPCC's out = 0 CCC's out = 14
4243F.D CALPEST.M Wed Sep 01 10:17:39 1993 RPT1

HERITAGE LABORATORIES, INC
SEMI-VOLATILES ANALYSIS-WATER METHOD BLANK
ANALYSIS METHOD: SW846-8270

MASS SPEC FILE: >5493H SVL# 621-663

ANALYSIS DATE/TIME: 8/31/93 01:07

PREP DATE: 8/22/93

TARGET COMPOUND LIST	RESULT	UNITS	DET. LIMIT
Acenaphthene	BDL	uG/L	10
Acenapthylene	BDL	uG/L	10
Anthracene	BDL	uG/L	10
Benz(a)anthracene	BDL	uG/L	10
Benzo(a)pyrene	BDL	uG/L	10
Benzo(b)fluoranthene	BDL	uG/L	10
Benzo(ghi)perylene	BDL	uG/L	10
Benzo(k)fluoranthene	BDL	uG/L	10
Benzyl Alcohol	BDL	uG/L	10
Benzylbutylphthalate	BDL	uG/L	10
Bis(2-chloroethoxy)methane	BDL	uG/L	10
Bis(2-chloroethyl)ether	BDL	uG/L	10
Bis(2-chloroisopropyl)ether	BDL	uG/L	10
Bis(2-ethylhexyl)phthalate	BDL	uG/L	10
4-Bromophenylphenylether	BDL	uG/L	10
Carbazole	BDL	uG/L	10
4-Chloroaniline	BDL	uG/L	10
2-Chloronaphthalene	BDL	uG/L	10
4-Chlorophenylphenylether	BDL	uG/L	10
Chrysene	BDL	uG/L	10
Dibenz(a,h)anthracene	BDL	uG/L	10
Dibenzofuran	BDL	uG/L	10
1,2-Dichlorobenzene	BDL	uG/L	10
1,3-Dichlorobenzene	BDL	uG/L	10
1,4-Dichlorobenzene	BDL	uG/L	10
3,3' -Dichlorobenzidine	BDL	uG/L	20
Diethylphthalate	BDL	uG/L	10
Dimethylphthalate	BDL	uG/L	10
Di-n-butylphthalate	BDL	uG/L	10
Dinitrobenzenes	BDL	uG/L	50
2,4-Dinitrotoluene	BDL	uG/L	10
2,6-Dinitrotoluene	BDL	uG/L	10
Di-n-octylphthalate	BDL	uG/L	10
Fluoranthene	BDL	uG/L	10
Fluorene	BDL	uG/L	10
Hexachlorobenzene	BDL	uG/L	10
Hexachlorobutadiene	BDL	uG/L	10
Hexachlorocyclopentadiene	BDL	uG/L	10
Hexachloroethane	BDL	uG/L	10
Indeno(1,2,3-cd)pyrene	BDL	uG/L	10
Isophorone	BDL	uG/L	10
2-Methylnaphthalene	BDL	uG/L	10
Naphthalene	BDL	uG/L	10

MASS SPEC FILE: >5493H

2-Nitroaniline	BDL	uG/L	50
3-Nitroaniline	BDL	uG/L	50
4-Nitroaniline	BDL	uG/L	50
Nitrobenzene	BDL	uG/L	10
N-Nitroso-diphenylamine	BDL	uG/L	10
N-Nitroso-di-n-propylamine	BDL	uG/L	10
Phenanthrene	BDL	uG/L	10
2-Picoline	BDL	uG/L	50
Pyrene	BDL	uG/L	10
Pyridine	BDL	uG/L	50
Tetrachlorobenzenes	BDL	uG/L	10
Toluenediamine	BDL	uG/L	50
1,2,4-Trichlorobenzene	BDL	uG/L	10
Benzoic Acid	BDL	uG/L	50
4-Chloro-3-methylphenol	BDL	uG/L	10
2-Chlorophenol	BDL	uG/L	10
2,4-Dichlorophenol	BDL	uG/L	10
2,4-Dimethylphenol	BDL	uG/L	10
4,6-Dinitro-2-methylphenol	BDL	uG/L	50
2,4-Dinitrophenol	BDL	uG/L	50
2-Methylphenol	BDL	uG/L	10
4-Methylphenol	BDL	uG/L	10
2-Nitrophenol	BDL	uG/L	10
4-Nitrophenol	BDL	uG/L	50
Pentachlorophenol	BDL	uG/L	50
Phenol	BDL	uG/L	10
Tetrachlorophenol	BDL	uG/L	10
2,4,5-Trichlorophenol	BDL	uG/L	50
2,4,6-Trichlorophenol	BDL	uG/L	10

SURROGATE LIST			spike conc
2-Fluorophenol	53	% Rec	100
Phenol-d5	36	% Rec	100
Nitrobenzene-d5	64	% Rec	50
2-Fluorobiphenyl	56	% Rec	50
2,4,6-Tribromophenol	76	% Rec	100
Terphenyl-d14	88	% Rec	50

( ) = ESTIMATED CONCENTRATION

QUALITY ASSURANCE REPORT

Service Location	Received	Lab ID
HERITAGE LABORATORIES, INC. 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8305	24-AUG-93	A287944
	Complete 31-AUG-93	PO Number 63033
	Printed 31-AUG-93	Sampled 23-AUG-93 15:35

Sample Description

SAMPLE ID: TAP
DESCRIPTION: TAP WATER USED IN RINSE
LOCATION: DUPONT AP PLANT TOLEDO

VOLATILE ORGANICS SW846-8240A

Analyst : R. SHAMP Analysis Date: 27-AUG-93 Instrument: GC/MS VOA Test: 0510.3.0
Reviewer: A. BRADBURN Review Date: 30-AUG-93 File ID: >2634J Run: R195306

QC Type	Identifier	Source	Parameter	True/Sampl	Spike Val	Observed	Units	% Rec	RPD
CCV	Q770498		See Attached Report g2620j.ind						
BLA01	Q770499		See Attached Report g2621j.ind						
SAMPLE	A287944		See Certificate of Analysis						
LCS01	Q770504	EMS	ACETONE	20		20.5	ug/L	102.5	
LCS01	Q770504	EMS	BENZENE	20		18.4	ug/L	92	
LCS01	Q770504	EMS	BROMODICHLOROMETHANE	20		17	ug/L	85	
LCS01	Q770504	EMS	BROMOFORM	20		14.8	ug/L	74	
LCS01	Q770504	EMS	BROMOMETHANE	20		17.6	ug/L	88	
LCS01	Q770504	EMS	CARBON DISULFIDE	20		14.6	ug/L	73	
LCS01	Q770504	EMS	CARBON TETRACHLORIDE	20		15.5	ug/L	77.5	
LCS01	Q770504	EMS	CHLOROBENZENE	20		18	ug/L	90	
01	Q770504	EMS	CHLOROETHANE	20		17.6	ug/L	88	
01	Q770504	EMS	CHLOROFORM	20		17	ug/L	85	
LCS01	Q770504	EMS	CHLOROMETHANE	20		16.6	ug/L	83	
LCS01	Q770504	EMS	DIBROMOCHLOROMETHANE	20		15.7	ug/L	78.5	
LCS01	Q770504	EMS	CIS-1,3-DICHLOROPROPENE	20		17.4	ug/L	87	
LCS01	Q770504	EMS	1,1-DICHLOROETHANE	20		17.9	ug/L	89.5	
LCS01	Q770504	EMS	1,2-DICHLOROETHANE	20		19	ug/L	95	
LCS01	Q770504	EMS	1,1-DICHLOROETHENE	20		16.6	ug/L	83	
LCS01	Q770504	EMS	1,2-DICHLOROPROPANE	20		18.4	ug/L	92	
LCS01	Q770504	EMS	ETHYL BENZENE	20		17.3	ug/L	86.5	
LCS01	Q770504	EMS	FLUOROTRICHLOROMETHANE	20		16.2	ug/L	81	
LCS01	Q770504	EMS	2-HEXANONE	20		18.5	ug/L	92.5	
LCS01	Q770504	EMS	DICHLOROMETHANE (METHYLENE CHLORIDE)	20		19.1	ug/L	95.5	
LCS01	Q770504	EMS	METHYL ETHYL KETONE	20		20.3	ug/L	101.5	
LCS01	Q770504	EMS	4-METHYL-2-PENTANONE	20		14.1	ug/L	70.5	
LCS01	Q770504	EMS	STYRENE	20		17.2	ug/L	86	
LCS01	Q770504	EMS	1,1,2,2-TETRACHLOROETHANE	20		19.2	ug/L	96	
LCS01	Q770504	EMS	TETRACHLOROETHENE	20		17.4	ug/L	87	
LCS01	Q770504	EMS	TOLUENE	20		18.1	ug/L	90.5	
LCS01	Q770504	EMS	TRANS-1,3-DICHLOROPROPENE	20		17.3	ug/L	86.5	
LCS01	Q770504	EMS	1,1,1-TRICHLOROETHANE	20		17.4	ug/L	87	
LCS01	Q770504	EMS	1,1,2-TRICHLOROETHANE	20		18.3	ug/L	91.5	
LCS01	Q770504	EMS	TRICHLOROETHENE	20		17.8	ug/L	89	
LCS01	Q770504	EMS	VINYL ACETATE	20		18.5	ug/L	92.5	
LCS01	Q770504	EMS	VINYL CHLORIDE	20		16.7	ug/L	83.5	
CS01	Q770504	EMS	TETRAHYDROFURAN	50		50.4	ug/L	100.8	

Quality Assurance Officer: _____

QUALITY ASSURANCE REPORT

Service Location	Received	Lab ID
HERITAGE LABORATORIES, INC. 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8305	24-AUG-93	A287945
	Complete 31-AUG-93	PO Number 63033
	Printed 31-AUG-93	Sampled 23-AUG-93 15:30

Sample Description

SAMPLE ID: FIELD
DESCRIPTION: DI WATER FILLED IN RM
LOCATION: DUPONT AP PLANT TOLEDO

VOLATILE ORGANICS SW846-8240A

Analyst : R. SHAMP Analysis Date: 27-AUG-93 Instrument: GC/MS VOA Test: 0510 3.0
Reviewer: A. BRADBURN Review Date: 30-AUG-93 File ID: >2623J Run: R195306

QC Type	Identifier	Source	Parameter	True/Sampl	Spike Val	Observed	Units	% Rec	RPD
CCV	Q770498		See Attached Report g2620j.ind						
BLA01	Q770499		See Attached Report g2621j.ind						
SAMPLE	A287945		See Certificate of Analysis						
LCS01	Q770504	EMS	ACETONE	20		20.5	ug/L	102.5	
LCS01	Q770504	EMS	BENZENE	20		18.4	ug/L	92	
LCS01	Q770504	EMS	BROMODICHLOROMETHANE	20		17	ug/L	85	
LCS01	Q770504	EMS	BROMOFORM	20		14.8	ug/L	74	
LCS01	Q770504	EMS	BROMOMETHANE	20		17.6	ug/L	88	
LCS01	Q770504	EMS	CARBON DISULFIDE	20		14.6	ug/L	73	
LCS01	Q770504	EMS	CARBON TETRACHLORIDE	20		15.5	ug/L	77.5	
LCS01	Q770504	EMS	CHLOROBENZENE	20		18	ug/L	90	
01	Q770504	EMS	CHLOROETHANE	20		17.6	ug/L	88	
S01	Q770504	EMS	CHLOROFORM	20		17	ug/L	85	
LCS01	Q770504	EMS	CHLOROMETHANE	20		16.6	ug/L	83	
LCS01	Q770504	EMS	DIBROMOCHLOROMETHANE	20		15.7	ug/L	78.5	
LCS01	Q770504	EMS	CIS-1,3-DICHLOROPROPENE	20		17.4	ug/L	87	
LCS01	Q770504	EMS	1,1-DICHLOROETHANE	20		17.9	ug/L	89.5	
LCS01	Q770504	EMS	1,2-DICHLOROETHANE	20		19	ug/L	95	
LCS01	Q770504	EMS	1,1-DICHLOROETHENE	20		16.6	ug/L	83	
LCS01	Q770504	EMS	1,2-DICHLOROPROPANE	20		18.4	ug/L	92	
LCS01	Q770504	EMS	ETHYL BENZENE	20		17.3	ug/L	86.5	
LCS01	Q770504	EMS	FLUOROTRICHLOROMETHANE	20		16.2	ug/L	81	
LCS01	Q770504	EMS	2-HEXANONE	20		18.5	ug/L	92.5	
LCS01	Q770504	EMS	DICHLOROMETHANE (METHYLENE CHLORIDE)	20		19.1	ug/L	95.5	
LCS01	Q770504	EMS	METHYL ETHYL KETONE	20		20.3	ug/L	101.5	
LCS01	Q770504	EMS	4-METHYL-2-PENTANONE	20		14.1	ug/L	70.5	
LCS01	Q770504	EMS	STYRENE	20		17.2	ug/L	86	
LCS01	Q770504	EMS	1,1,2,2-TETRACHLOROETHANE	20		19.2	ug/L	96	
LCS01	Q770504	EMS	TETRACHLOROETHENE	20		17.4	ug/L	87	
LCS01	Q770504	EMS	TOLUENE	20		18.1	ug/L	90.5	
LCS01	Q770504	EMS	TRANS-1,3-DICHLOROPROPENE	20		17.3	ug/L	86.5	
LCS01	Q770504	EMS	1,1,1-TRICHLOROETHANE	20		17.4	ug/L	87	
LCS01	Q770504	EMS	1,1,2-TRICHLOROETHANE	20		18.3	ug/L	91.5	
LCS01	Q770504	EMS	TRICHLOROETHENE	20		17.8	ug/L	89	
LCS01	Q770504	EMS	VINYL ACETATE	20		18.5	ug/L	92.5	
LCS01	Q770504	EMS	VINYL CHLORIDE	20		16.7	ug/L	83.5	
S01	Q770504	EMS	TETRAHYDROFURAN	50		50.4	ug/L	100.8	

Quality Assurance Officer: _____

Heritage Laboratory, Indianapolis
Volatile Continuing Calibration Report

Operator ID: REGINA Date Acquired: 27 Aug 93 7:51 am
Data File: C:\I082793\2620J.D GCMS#9 Misc. CALIBRATION CHECK 8/27/93
thod: VOLCLPI Title: QUANTITATION FOR VOLATILES
st Calibration Update: Thu Aug 26 08:41:40 1993

C = CCC Max Dev = 25% P = SPCC Min RF = 0.05
S = Surrogate I = ISTD M = Matrix Spike Compound

cal20 = 1941J.D cal50 = 1942J.D cal100 = 1943J.D
cal150 = 1944J.D cal200 = 1945J.D

PK#		Compound	AvgRRF	CCRRF	%Dev
1	I	BROMOCHLOROMETHANE	1.000	1.000	0.0
2	T	Dichlorodifluoromethane	1.207	0.791	34.5
3	P	Chloromethane	0.901	0.772	14.3
4	C	Vinyl Chloride	0.774	0.786	1.5
5		Bromomethane	1.090	1.109	1.8
6		Chloroethane	0.410	0.534	30.4
7		Trichlorofluoromethane	2.175	2.088	4.0
8		Diethyl ether	0.534	0.612	14.7
9		Acrolein	0.037	0.003#	92.4
10		Acetone	0.233	0.261	12.2
11		Trichlorotrifluoroethane	2.084	2.109	1.2
12	CM	1,1-Dichloroethene	1.092	1.270	16.2
13		Methylene Chloride	1.249	1.421	13.8
14		Acrylonitrile	0.242	0.331	36.7
15		Carbon Disulfide	2.495	2.936	17.7
16		Vinyl acetate	0.583	0.570	2.3
7		Methyl-t-butyl ether	2.240	2.285	2.0
		1,2-Dichloroethene(trans)	1.380	1.529	10.8
19		Diisopropyl ether	4.289	4.741	10.5
20	P	1,1-Dichloroethane	2.596	2.668	2.8
21		2-Butanone	0.376	0.453	20.4
22		Ethyl acetate	1.044	1.114	6.7
23	C	1,2-Dichloroethene(cis)	1.498	1.463	2.4
24		Chloroform	3.118	2.962	5.0
25		Tetrahydrofuran	0.281	0.290	3.2
26	S	1,2-Dichloroethane-d4	1.367	1.281	6.3
27	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0
28		1,1,1-Trichloroethane	0.630	0.583	7.6
29		Carbon Tetrachloride	0.575	0.507	11.9
30		1,2-Dichloroethane	0.437	0.381	12.6
31	CM	Benzene	0.894	0.906	1.4
32	M	Trichloroethene	0.560	0.503	10.2
33	C	1,2-Dichloropropane	0.448	0.455	1.5
34		Bromodichloromethane	0.777	0.714	8.1
35		2-Chloroethylvinylether	0.221	0.178	19.5
36		4-Methyl-2-Pentanone	0.491	0.507	3.2
37		cis-1,3-Dichloropropene	0.661	0.664	0.4
38	S	Toluene-d8	0.930	0.919	1.2
39	CM	Toluene	0.665	0.695	4.5
40		trans-1,3-Dichloropropene	0.483	0.472	2.2
41	I	CHLOROBENZENE-d5	1.000	1.000	0.0
2		2-Hexanone	0.276	0.290	5.0
3		1,1,2-Trichloroethane	0.512	0.490	4.3

Heritage Laboratory, Indianapolis
Volatile Continuing Calibration Report

Operator ID: REGINA Date Acquired: 27 Aug 93 7:51 am
Data File: C:\I082793\2620J.D GCMS#9 Misc. CALIBRATION CHECK 8/27/93
thod: VOLCLP1 Title: QUANTITATION FOR VOLATILES
st Calibration Update: Thu Aug 26 08:41:40 1993

C = CCC Max Dev = 25% P = SPCC Min RF = 0.05
S = Surrogate I = ISTD M = Matrix Spike Compound

cal20 = 1941J.D cal50 = 1942J.D cal100 = 1943J.D
cal150 = 1944J.D cal200 = 1945J.D

PK#		Compound	AvgRRF	CCRRF	%Dev
44		Tetrachloroethene	0.576	0.535	7.1
45		Dibromochloromethane	0.863	0.813	5.8
46	PM	Chlorobenzene	1.117	1.093	2.1
47	C	Ethylbenzene	0.459	0.478	4.2
48		Xylene(m,p)	0.555	0.609	9.7
49		Xylene(o)	0.571	0.593	3.9
50		Styrene	1.017	1.075	5.7
51	P	Bromoform	0.626	0.598	4.5
52	P	1,1,2,2-Tetrachloroethane	0.620	0.674	8.7
53	S	Bromofluorobenzene	0.874	0.827	5.4
54		1,3-Dichlorobenzene	0.971	0.998	2.8
55		1,4-Dichlorobenzene	1.013	1.019	0.6
56		1,2-Dichlorobenzene	0.944	0.944	0.0

(#) = Out of Range 2600J.D VOLCLP1.M Fri Aug 27 08:29:22 1993 FMGR

HERITAGE LABORATORIES, INC
VOLATILES ANALYSIS-WATER METHOD BLANK
ANALYSIS METHOD: SW846-8240

MASS SPEC FILE: >2621J
ANALYSIS DATE/TIME: 8/27/93 8:45

TARGET COMPOUND LIST	RESULT	UNITS	DET. LIMIT
Acetone	BDL	uG/L	20
Acrolein	BDL	uG/L	50
Acrylonitrile	BDL	uG/L	70
Benzene	BDL	uG/L	5
Bromodichloromethane	BDL	uG/L	5
Bromoform	BDL	uG/L	5
Bromomethane	BDL	uG/L	10
Carbon disulfide	BDL	uG/L	5
Carbon tetrachloride	BDL	uG/L	5
Chlorobenzene	BDL	uG/L	5
Chloroethane	BDL	uG/L	10
Chloroform	BDL	uG/L	5
Chloromethane	BDL	uG/L	10
Dibromochloromethane	BDL	uG/L	5
cis-1,3-Dichloropropene	BDL	uG/L	5
Dichlorodifluoromethane	BDL	uG/L	5
1,1-Dichloroethane	BDL	uG/L	5
1,2-Dichloroethane	BDL	uG/L	5
1,1-Dichloroethene	BDL	uG/L	5
1,2-Dichloropropane	BDL	uG/L	5
Ethylbenzene	BDL	uG/L	5
Fluorotrichloromethane	BDL	uG/L	5
2-Hexanone	BDL	uG/L	10
Methylene chloride	BDL	uG/L	5
Methyl ethyl ketone	BDL	uG/L	10
4-Methyl-2-pentanone	BDL	uG/L	10
Styrene	BDL	uG/L	5
1,1,2,2-Tetrachloroethane	BDL	uG/L	5
Tetrachloroethene	BDL	uG/L	5
Tetrahydrofuran	BDL	uG/L	25
Toluene	BDL	uG/L	5
1,2-Dichloroethene (total)	BDL	uG/L	5
trans-1,3-Dichloropropene	BDL	uG/L	5
1,1,1-Trichloroethane	BDL	uG/L	5
1,1,2-Trichloroethane	BDL	uG/L	5
Trichloroethene	BDL	uG/L	5
Vinyl acetate	BDL	uG/L	10
Vinyl chloride	BDL	uG/L	10
Xylenes (total)	BDL	uG/L	5

SURROGATE LIST			spike conc
Dichloroethane-d4	96	% Rec	50
Toluene-d8	100	% Rec	50
Bromofluorobenzene	98	% Rec	50

( ) = ESTIMATED CONCENTRATION

NOTE: On this instrument, packed column has been replaced by capillary column with 8240 criteria.

HAZARDOUS WASTE STORAGE FACILITY
PART B CLOSURE REPORT
TANK # 14
E.I. DUPONT DE NEMOURS & CO.
TOLEDO AP PLANT

PREPARED FOR:

E.I. DUPONT DE NEMOURS & CO.
TOLEDO AP PLANT
1930 TREMAINSVILLE ROAD
TOLEDO, OHIO 43613
419-478-1211

PREPARED BY:

HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPORTUNITY DRIVE
TOLEDO OH 43612-2922

Certified By:

Joseph D. Ritchey, P.E.
Ohio Reg. No. E-53107
April 5, 1993

HAZARDOUS WASTE STORAGE FACILITY
PART B CLOSURE REPORT FOR TANK # 14

E.I. DUPONT DE NEMOURS & CO.
TOLEDO AP PLANT
1930 TREMAINSVILLE ROAD
TOLEDO, OH 43613

TABLE OF CONTENTS

1.0 INTRODUCTION

1.1 Closure Plan

The activities described herein were conducted in accordance with the approved Hazardous Waste Storage Facility Part B Closure Plan dated May 19, 1992. The referenced plan describes closure activities for all of the Toledo AP Plant areas including Tank #14.

1.2 FACILITY DESCRIPTION

The E. I. DuPont de Nemours & Co., Inc. facility manufactures automotive paints and resins. These processes or activities generate various wastes as described in Section 3.0 of the Hazardous Waste Storage Facility Part B Closure Plan dated May 19, 1992. The facility is located in Toledo, Lucas County, Ohio and is bordered by Harris Street and Jackman Rd. to the east, Tremainsville Rd. to the south, and railroad tracks to the west and north (See Figure 1). The Facility is approximately 17 acres in size.

1.3 TANK #14 AND SECONDARY CONTAINMENT DESCRIPTION

Tank #14 was cylindrical with a cone-shaped bottom and top. It was constructed in 1981 of carbon steel which is 3/8" thick on the bottom and sides to 8 feet and 3/16" on the sides above 8 feet and on the top. The sides are 16 feet tall, and the tank is 9.5 feet in diameter. The tank was operated at atmospheric pressure, and was vented through a conservation/flame arrestor vent.

The tank had four angle-iron legs, each 2.5 feet long. The legs were mounted on concrete piers 4 feet tall. The tank was located inside its own dike with concrete walls and floor, which had a capacity of 11,950 gallons. The dike has walls of 7.5 inch thick concrete and a floor of 4.5 inch concrete. The tank sits on four concrete piers, each of which is supported by a footer roughly 4 feet square and 9 inches thick. The bottom is sloped to a 4 foot by 4 foot sump (See Figure 2). The basin is recessed below the ground surface to a depth of four feet.

Prior to closure the tank was used to store dirty wash solvent from equipment cleaning processes in the manufacturing and resin areas. The tank was used as feed for solvent recovery.

2. CLOSURE ACTIVITIES

2.1 TANK #14 AND SECONDARY CONTAINMENT DECONTAMINATION

On September 16, 1992, HR/E participated in DuPont's contractor safety program. The following sections describe the decontamination procedures followed for the closure of the tank and containment area.

2.1.1 Tank #14 Decontamination

On September 16, 1992, following safety training, HR/E personnel set up scaffolding around the tank and the tank vent was opened so that the tank product level could be observed. The product level was such that a side manway was partially obstructed.

On September 17, 1992, HR/E and DuPont personnel pumped a solvent into the tank to loosen the tank product. This was accomplished by using a two inch suction hose and a M8 diaphragm pump. The equipment was set up to empty the liquid out of Tank #14 and to mix and break up the paint sludge within. After several pumpings the product level in Tank #14 dropped below the side manhole. This activity continued on September 23, 1992 when the side manway could be accessed. After accessing the tank (without entry) from the side manhole, a solvent stream was directed towards the paint sludge to dissolve it and pump it out. This activity was completed on September 30, 1992 with the tank being emptied of product. On October 1, 1992 a water pressure washer was used to rinse the inside of the tank.

All solvents, sludge, and rinseate were recovered in 500 gallon portable totes provided by DuPont. The tank was then air vented to insure the tank had a safe atmosphere with no LEL (lower explosive limit). A total of 1,070 gallons of product/sludge was removed from the tank. Approximately 880 gallons of solvent was used.

On October 2, 1992 piping and conduits were removed from the tank and the scaffolding taken down. On September 5, 1992 a 27-ton crane from Jeffers Company was utilized to move Tank #14 to the Drum Storage Pad. Four bolts which fastened the tank to the concrete base were removed after cables had been secured onto the tank. The crane picked the tank up and placed it on a low-boy truck trailer provided by the Morrow Bulk Company. After off-loading the tank to the northwest corner of the Drum Storage Pad, railroad ties were placed to stabilize the vessel for

further cleaning.

This cleaning started on October 6, 1992. Prior to entering Tank #14 for cleaning, DuPont facility safety personnel and the HR/R site safety officer monitored the tank and posted separate confined space entry permits. HR/E personnel then began water pressure washing Tank #14 with a pencil head tip to blast the remaining thin coated paint off the tank. A drum vacuum unit was mounted on the portable totes to recover all the rinseate. On October 7, 1992, the tank was pressure washed and rinsed three times with plant tap water. Two and one half totes were used to contain the rinse water. Two valves were removed from the tank. On October 9, 1992, piping from the tank that had been removed was cut and drummed using a 4-wheel cutter. A tank entry permit was obtained on October 23, 1992 to allow a final rinse of the tank and sampling.

2.1.2 Tank #14 Secondary Containment Pit Decontamination

Decontamination of Tank #14's pit including its dike walls, floor and surrounding concrete area was started October 9, 1992. A visqueen canopy was constructed over the pit to contain the sandblast material and associated dust and paint residue. Sandblasting of the pit walls was performed on October 13 and 14, 1992. Sandblast solids were shoveled from the pit into 55-gallon drums. On October 19, 1992 HR/E repaired the visqueen canopy, damaged by high winds and rain. Water that had accumulated in the pit was removed by DuPont personnel. Sandblasting of the pit floor was performed October 21, 1992. Again sandblast solids were shoveled from the pit into 55-gallon drums. This was followed by vacuuming the area using a Tornado 250 cfm drum vacuum. The waste disposal manifest for drummed material is presented in Appendix II. On October 22, 1992, after the pit was sandblasted and vacuumed cleaned, the visqueen canopy was removed and the entire pit area was water pressure blasted with a pencil head tip. Following water blasting, the area was triple rinsed using plant tap water. All rinseate was collected into portable totes. Manifests for disposal of rinseate are included in Appendix II.

2.2 DETAILS OF SAMPLING AND ANALYSIS

2.2.1 Sampling and Analysis of Tank #14

On October 7, 1992, following the third pressure washing, a sample was taken of the fourth rinse using a single 40 mil glass vial to fill two 40 mil glass vials and one 16 oz. glass jar as appropriate for analysis. A sample was also collected of the plant tap water at from the faucet. This sample was labeled "water blank". Sampling was performed by Mr. Steve Klemm of HR/E. Samples were labeled and placed in a cooler containing ice. The samples were shipped via UPS over night to Heritage Laboratories, Inc. in Indianapolis, IN. The tank risneate sample was sent for total lead (Pb) analysis using USEPA Method SW846-6010.

Both samples, the Tank #14 Rinseate and the Water Blank showed no detectable Pb at a limit of 0.050 mg/L. Appendix I includes a copy of the certificates of analysis and the completed Chain-of-Custody form.

On October 23, 1992, following an additional rinse of the tank, a rinseate sample was taken using a single 40 mil glass vial to fill two 40 mil glass vials and one 16 oz. glass jar as appropriate for analysis. Sampling was performed by Mr. Steve Klemm of HR/E. The sample was labeled and placed in a cooler containing ice. On October 26, 1992 the samples were shipped via UPS over night to Heritage Laboratories, Inc. in Indianapolis, IN. The sample was sent for analysis as summarized in Table 1.

Table 1. Summary of Analyses and Analytical Methods

ANALYSIS	METHOD
Volatile Organic Compounds	SW846-8240
Semi-Volatile Organic Compounds	SW846-8270
Arsenic	SW846-7060
Barium	SW846-6010
Cadmium	SW846-7131
Chromium	SW846-6010
Lead	SW846-7421
Mercury	SW846-7470
Selenium	SW846-7740
Silver	SW846-6010

2.2.2 Sampling and Analysis of Secondary Containment

On October 22, 1992, following the third pressure washing, a sample was taken of the fourth rinse using a single 40 mil glass vial to fill two 40 mil glass vials and one 16 oz. glass jar as appropriate for analysis. The sample was collected at the containment area sump. A sample was also collected of the plant tap water at from the faucet. This sample was labeled "Faucet Near Pit". Sampling was performed by Mr. Steve Klemm of HR/E. Samples were labeled and placed in a cooler containing ice. The samples were shipped via UPS over night to Heritage Laboratories, Inc. in Indianapolis, IN on October 26, 1992. The samples were submitted for analyses summarized in Table 1.

2.3 SUMMARY OF ANALYTICAL RESULTS

The closure plan stipulated that the final rinseates must meet or exceed:

- Fifteen times the public drinking water MCL for hazardous waste constituents.
- If an MCL is not available for a particular contaminant, then fifteen times the MCLG.
- If a product of fifteen time the MCL or MCLG exceeds 1 mg/liter or if neither an MCL or MCLG is not available for a particular contaminant, 1 mg/liter shall be used as the clean standard.

The analytical results from tank and containment risneate are summarized in Table 2. Also included are the clean standards as determined from the approved closure plan and federal maximum contaminant levels (MCLs). In summary, both organic compounds and inorganic compounds were identified in the water from various sources, however, all detectable compounds were at levels below clean standard.

Therefore, Tank #14 is considered with in the EPA Clean Standard and may be disposed of or sold as scrap. At the time of preparation of this closure plan the tank had not been scraped or disposed.

Table 2 Analytical Data for RCRA Tank No. 14 Closure.

Constituent	MCL mg/ℓ	MCLG mg/ℓ	Clean Standard mg/ℓ	Tank Rinseate mg/ℓ	Pit Rinseate mg/ℓ	Faucet Water mg/ℓ	Blank mg/ℓ
Lab. Sample No.				A265472	A265468	A265471	A265473
Metals							
Arsenic (As)	0.050	NA	0.750	<0.005	<0.005	<0.005	<0.005
Barium (Ba)	2.000	NA	1.000	<0.010	<0.010	<0.010	<0.010
Cadmium (Cd)	0.005	0.005	0.080	0.0024	<0.001	<0.001	<0.001
Chromium (Cr)	0.010	0.01	0.150	<0.010	<0.010	<0.010	<0.010
Lead (Pb)	0.015	NA	0.230	0.0055	<0.005	<0.005	<0.005
Mercury (Hg)	0.002	0.002	0.030	<0.0002	<0.0002	<0.0002	<0.0002
Selenium (Se)	0.050	0.05	0.750	<0.005	<0.005	<0.005	<0.005
Silver (Ag)	0.050	NA	0.750	<0.010	<0.010	<0.010	<0.010
Volatile Organics							
Benzene	0.005	NA	0.080	<0.005	<0.005	<0.005	<0.005
O-dichlorobenzene	0.060	0.60	0.900	<0.010	<0.010	<0.010	<0.010
P-dichlorobenzene	0.075	NA	1.000	<0.010	<0.010	<0.010	<0.010
Ethylbenzene	0.700	0.70	1.000	<0.005	<0.005	<0.005	<0.005
Chlorobenzene	0.100	0.10	1.000	<0.005	<0.005	<0.005	<0.005
Toluene	1.000	1.00	1.000	<0.005	<0.005	<0.005	<0.005
Total Xylenes	10.000	10.00	1.000	<0.005	<0.005	<0.005	<0.005
Tetrachloroethene	0.005	0.00	0.080	<0.005	<0.005	<0.005	<0.005
1,1,1-trichloroethane	0.200	NA	1.000	<0.005	<0.005	<0.005	<0.005
1,2-dichloroethane	0.005	NA	0.080	<0.005	<0.005	<0.005	<0.005
Trichloroethene	0.005	NA	0.080	<0.005	<0.005	<0.005	<0.005
1,1-dichloroethene	0.007	NA	0.110	<0.005	<0.005	<0.005	<0.005
c-1,2-dichloroethane	0.070	0.07	1.000	<0.005	<0.005	<0.005	<0.005
t-1,2-dichloroethane	0.100	0.10	1.000	<0.005	<0.005	<0.005	<0.005
Vinyl Chloride	0.002	NA	0.030	<0.010	<0.010	<0.010	<0.010
Carbon Tetrachloride	0.005	NA	0.080	<0.005	<0.005	<0.005	<0.005
Styrene	0.100	0.10	1.000	<0.005	<0.005	<0.005	<0.005
1,2-dichloropropane	0.005	NA	0.080	<0.005	<0.005	<0.005	<0.005
Total Trihalomethanes	0.100	NA	1.000	NM	NM	NM	NM
Acetone	NA	NA	1.000	0.052	<0.020	<0.020	<0.020
Bromodichloromethane	NA	NA	1.000	<0.005	<0.005	0.005	<0.005
Chloroform	NA	NA	1.000	<0.005	<0.005	0.008	<0.005
Semi-Volatile Organics							
Di(ethylbenzyl)phthalate	0.004	NA	0.060	NM	NM	NM	NM
Methylene Chloride	0.005	NA	0.080	<0.005	<0.005	<0.005	<0.005
Hexachlorobenzene	0.001	NA	0.020	<0.010	<0.010	<0.010	<0.010
1,2,4-trichlorobenzene	0.009	NA	0.140	<0.010	<0.010	<0.010	<0.010
1,1,2-trichloroethane	0.005	NA	0.080	<0.005	<0.005	<0.005	<0.005
Benzyl Alcohol	NA	NA	1.000	<0.010	0.051	<0.010	<0.010
Bis(2-EH)Phthalate	NA	NA	1.000	<0.010	0.092	<0.010	<0.010

NA - Not Applicable, NM - Not Measured

2.4 CERTIFICATION

MANAGEMENT APPROVAL

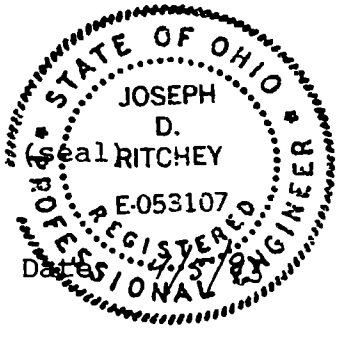
This Closure has been performed as herein described.

Signature X

Name and Title Mr. Samuel J. Bright - Toledo Plant Manager

CERTIFICATION

I hereby certify that I have examined the facility and being familiar with the provisions of 40 CFR, Part 264.115/OAC 3745-66-15, attest that this closure has been preformed in accordance with the approved closure plan.



Joseph D. Ritchey, PE
Printed Name of Registered Professional Engineer

Joseph D Ritchey
Signature of Registered Professional Engineer

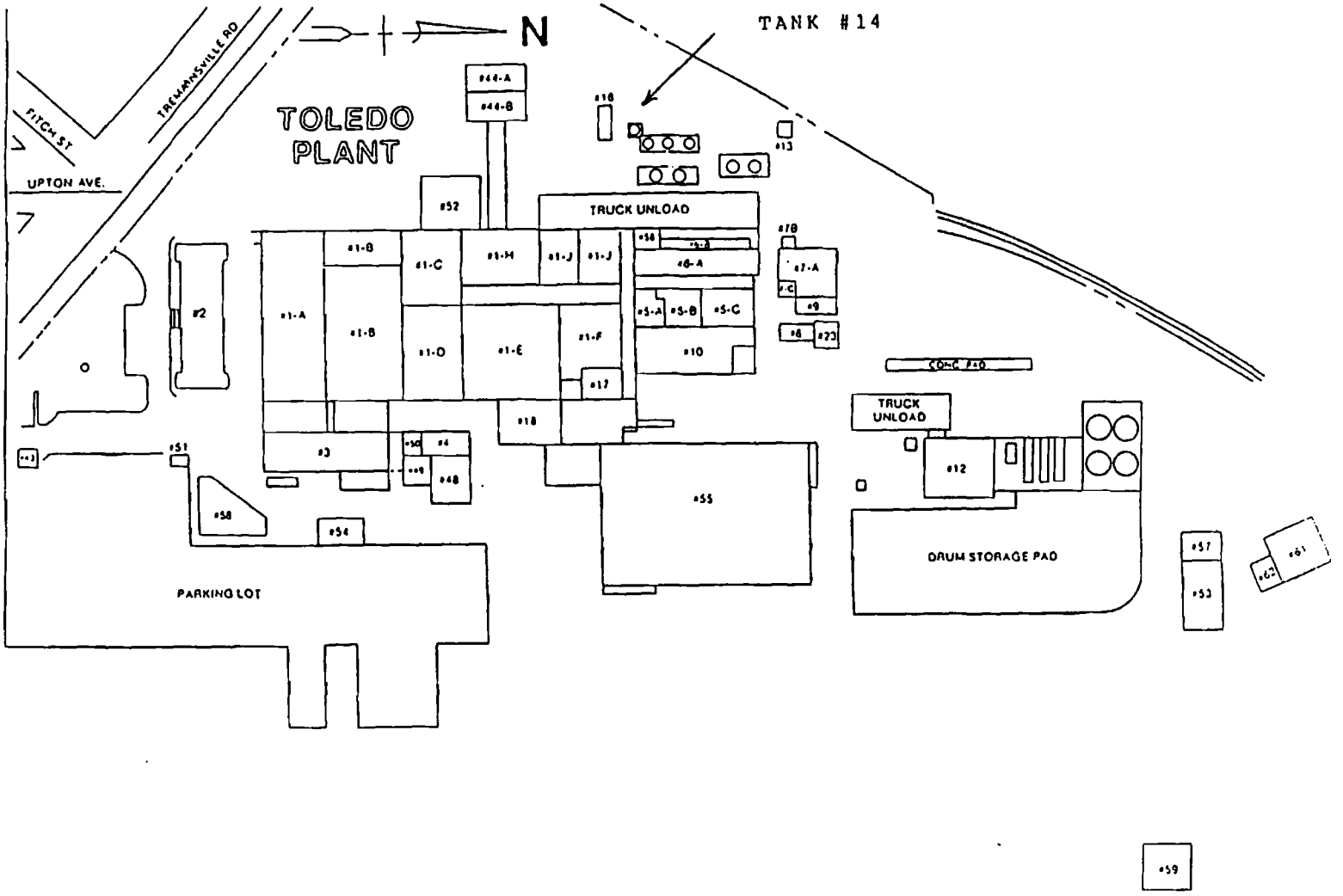
E-53107
Registration No.

Ohio
State

ATTACHMENT 1

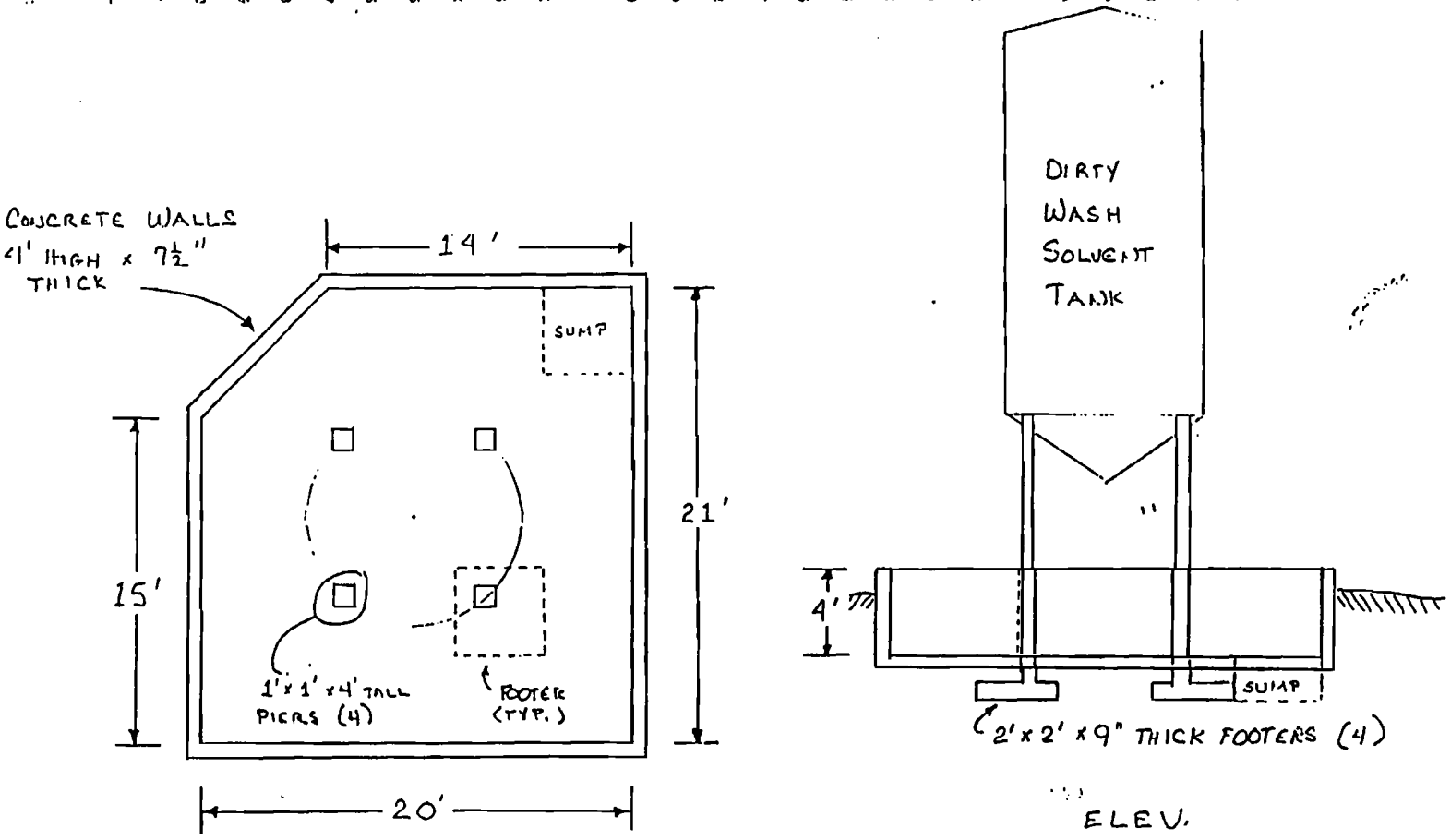
AREA MAP

1-A	ENAMELS/RECEIVING
1-B	ENAMELS/STORAGE
1-C	RECEIVING/STORAGE
1-D	ENAMELS/STORAGE
1-E	RESIN STORAGE
1-F	TANK ROOM
1-H	RESIN AREA — REAC. 4 & 5
1-J	REACTORS #1, #2 & 3
2	MAIN OFFICE
3	LAB/MECHANICAL/ENGINEERING
4	STOREROOM
5-A	STORAGE
5-B	PT REPAIR
5-C	EQUIPMENT CLEANING
6-A	DOWTH., MECH., SOLV. RECOVERY
6-B	STORAGE TANKS
7-A	POWERHOUSE
7-B	CONTROL ROOM
7-C	WELL
8	RESERVOIR — WATER
9	INERT GAS
10	P.T. CLEANING/SCRAP DOCK
11	PUMP HOUSE
12	SOLVENT STORAGE
13	GAS METER HOUSE
14	STORAGE TANKS
15	STORAGE TANK
16	M.P.A. TANK
17	STORAGE
18	DOCK/STORAGE
43	OFFICE/CREDIT UNION
44	STORAGE
48	STOREROOM/STORAGE
49	TRANSFORMERS
50	CONTROL ROOM
51	GATE HOUSE
52	TRUCK REPAIR
53	GARAGE
54	T/W LOADING SHED
55	SHIPPING WAREHOUSE
56	REACTOR #7 BUILDING
57	STORAGE SHED/ENGINEERING
58	CAFETERIA/CHANGEHOUSE
59	CONTRACTOR GATE
61	PEROXIDE STORAGE
62	AZO



ATTACHMENT 2

SKETCH OF TANK #14 AND DIKE



SCALE: 1/8" = 1 FOOT

EXISTING DIRTY WASH SOLVENT TANK DIKE

EXISTING DIRTY WASH SOLVENT TANK DIKE

EA3 11/13/27

ATTACHMENT D-29(e)-3

APPENDIX I

ANALYTICAL DATA REPORTS

CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
HERITAGE LABORATORIES, INC. 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8305	08-OCT-92		A263847
	Complete 12-OCT-92	PO Number 29-1725	
	Printed 13-OCT-92	Sampled 07-OCT-92 15:40	

Report To	Bill To
STEVE O. SMITH HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPORTUNITY DRIVE TOLEDO, OH 43612	STEVE SMITH HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPURTUNITY DRIVE TOLEDO, OH 43612

Sample Description

DESCRIPTION: TANK #14 RINSEATE

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005

Analyst: C. COFFEY Analysis Date: 09-OCT-92 Test: P130.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL WEIGHT OR VOLUME	50		mL

LEAD ICP SW846-6010

Analyst: M. JAO Analysis Date: 09-OCT-92 Instrument: ICP Test: M116.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
LEAD	BDL	0.050	mg/L

Sample Comments

SAMPLE PRESERVED AT HERITAGE UPON ARRIVAL.

BDL Below Detection Limit

Sample chain of custody number 15991.

IDEM Drinking Water Certification Number C-49-01

Quality Assurance Officer: _____

OCT 15 REC'D

CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
HERITAGE LABORATORIES, INC. 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8305	08-OCT-92		A263846
	Complete	PO Number	
	12-OCT-92	29-1725	
	Printed	Sampled	
	13-OCT-92	07-OCT-92 15:30	

Report To	Bill To
STEVE O. SMITH HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPORTUNITY DRIVE TOLEDO, OH 43612	STEVE SMITH HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPURTUNITY DRIVE TOLEDO, OH 43612

Sample Description

DESCRIPTION: WATER BLANK

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005

Analyst: C. COFFEY Analysis Date: 09-OCT-92 Test: P130.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL WEIGHT OR VOLUME	50		mL

LEAD ICP SW846-6010

Analyst: M. JAO Analysis Date: 09-OCT-92 Instrument: ICP Test: M116.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
LEAD	BDL	0.050	mg/L

Sample Comments

SAMPLE PRESERVED AT HERITAGE UPON ARRIVAL.

BDL Below Detection Limit

Sample chain of custody number 15991.

IDEM Drinking Water Certification Number C-49-01

Quality Assurance Officer: _____

TO ENSURE PROPER HANDLING OF SAMPLES PLEASE COMPLETE THIS ENTIRE FORM

EMS HERITAGE LABORATORIES, INC.

HERITAGE

4132 POMPANO ROAD
CHARLOTTE, N.C. 28216 (704) 393-1853

15994

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST FORM

Co. Name: Dupont Athens Finishes

Project Name:

Quote No.: PO No.: 1725

ENVIRONMENTAL PROGRAM:

CWA NPDES________ IWP ________ SLUDGE________

RCRA MW________ SW ________ DISPOSAL________

SDWA______ CERCLA/SUPERFUND______ OTHER ________

Sampled by:

Analyses Requested: (Note special detection limits or methods): RCRA Metals (Mercury); RCRA Volatiles 8240

Report To:
Co: HRIE
Add:
Attn: Joe [illegible] / Tim [illegible]
Phone: 800-[illegible]-9586

Accelerated Turnaround Requested ________ (Subject to Additional Charge)

Result Request by: ____/____/____ (Mo Day Yr) (Date must be Accepted and Approved by Lab.)

Sample ID:	Date:	Time:	Comp	Grab	Sample Description:	Sample Type (Matrix): DW, GW, WW, Soil, Oil, Sludge, Other	No. of Containers	RCRA Metals	RCRA Volatiles	Remarks:	EMS Sample No.
	9/9/92	[illegible]		✓	Water Blank	water	2-40ml, 1-16oz	✓	✓		A263846
	9/9/92	[illegible]		✓	Tank #4 [illegible]	water	2-40ml, 1-16oz	✓	✓	John	847

John, I'll request RUSH ~~normal~~ turn now. More or different parameters will be added or changed on phone tomorrow if things change. The metals samples need preservative. Thanks, Steve

Relinquished by: (Signature)	Date /Time	Received by: (Signature)	Relinquished by: (Signature)	Date /Time	Received by: (Signature)
Steven [illegible]	9/9/92 / 1625	UPS Express		/	
	/			/	
	10/8/92 / 10:20	Received for Lab by: Patricia A. Majors	Remarks: Logged in for Pb 10/8/92 PAS		

Distribution: Yellow copy returned to client. Pink copy to be retained by client.

CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
HERITAGE LABORATORIES, INC. 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8305	27-OCT-92	1871	A265468
	Complete	PO Number	
	20-NOV-92	29-1463	
	Printed	Sampled	
	21-NOV-92	22-OCT-92 15:18	

Report To	Bill To
JEFF STEVENS HERITAGE REMEDIATION/ENGINEERING, INC 5656 OPPORTUNITY DRIVE TOLEDO, OH 43612	STEVE SMITH HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPURTUNITY DRIVE TOLEDO, OH 43612

Sample Description

SAMPLE ID: 10221
DESCRIPTION: RINSEATE FROM PIT (TANK 14)
PROJECT: DUPONT TOLEDO, OH
HRE JOB NO.: 62026
PROJECT NAME
PROJECT NUMBER
SAMPLE DESCRIPTION

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005
Analyst: C. COFFEY Analysis Date: 03-NOV-92 Test: P130.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL WEIGHT OR VOLUME	50		mL

GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020
Analyst: S. SNYDER Analysis Date: 04-NOV-92 Test: P130.6.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL WEIGHT OR VOLUME	50		mL

MERCURY CVAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-7470
Analyst: R. BYERS Analysis Date: 06-NOV-92 Test: P131.6.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL VOLUME	100		mL

ARSENIC GFAA SW846-7060
Analyst: M. BAUER Analysis Date: 06-NOV-92 Instrument: GFAA Test: M103.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
ARSENIC	BDL	0.0050	mg/L

BARIUM ICP SW846-6010
Analyst: A. HILSCHER Analysis Date: 03-NOV-92 Instrument: ICP Test: M104.3.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
BARIUM	BDL	0.010	mg/L

CADMIUM GFAA SW846-7131
Analyst: J. VANSKYOCK Analysis Date: 11-NOV-92 Instrument: GFAA Test: M108.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
CADMIUM	BDL	0.0010	mg/L

CHROMIUM ICP SW846-6010
Analyst: A. HILSCHER Analysis Date: 03-NOV-92 Instrument: ICP Test: M110.3.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
CHROMIUM	BDL	0.010	mg/L

LEAD GFAA SW846-7421
Analyst: M. BAUER Analysis Date: 09-NOV-92 Instrument: GFAA Test: M116.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
LEAD	BDL	0.0050	mg/L

MERCURY CVAA SW846-7470
Analyst: K. HACK Analysis Date: 07-NOV-92 Instrument: CVAA Test: M120.1.0
Prep: MERCURY CVAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-7470 P131.6.0

Parameter	Result	Det. Limit	Units
MERCURY	BDL	0.00020	mg/L

SELENIUM GFAA SW846-7740
Analyst: W. WATNESS Analysis Date: 06-NOV-92 Instrument: GFAA Test: M128.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
SELENIUM	BDL	0.0050	mg/L

SILVER ICP SW846-6010
Analyst: A. HILSCHER Analysis Date: 03-NOV-92 Instrument: ICP Test: M130.3.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
SILVER	BDL	0.010	mg/L

VOLATILE ORGANICS SW846-8240
Analyst: T. WIEGAND Analysis Date: 03-NOV-92 Instrument: GC/MS VOA Test: O510.3.0

Parameter	Result	Det. Limit	Units
ACETONE	BDL	20	ug/L
ACROLEIN	BDL	50	ug/L
ACRYLONITRILE	BDL	70	ug/L
BENZENE	BDL	5	ug/L
BROMODICHLOROMETHANE	BDL	5	ug/L
BROMOFORM	BDL	5	ug/L
BROMOMETHANE	BDL	10	ug/L
CARBON DISULFIDE	BDL	5	ug/L
CARBON TETRACHLORIDE	BDL	5	ug/L
CHLOROBENZENE	BDL	5	ug/L
CHLOROETHANE	BDL	10	ug/L
CHLOROFORM	BDL	5	ug/L
CHLOROMETHANE	BDL	10	ug/L
DIBROMOCHLOROMETHANE	BDL	5	ug/L
CIS-1,3-DICHLOROPROPENE	BDL	5	ug/L
DICHLORODIFLUOROMETHANE	BDL	5	ug/L
1,1-DICHLOROETHANE	BDL	5	ug/L
1,2-DICHLOROETHANE	BDL	5	ug/L
1,1-DICHLOROETHENE	BDL	5	ug/L

Parameter	Result	Det. Limit	Units
1,2-DICHLOROPROPANE	BDL	5	ug/L
ETHYLBENZENE	BDL	5	ug/L
FLUOROTRICHLOROMETHANE	BDL	5	ug/L
2-HEXANONE	BDL	10	ug/L
METHYLENE CHLORIDE	BDL	5	ug/L
METHYL ETHYL KETONE	BDL	10	ug/L
4-METHYL-2-PENTANONE	BDL	10	ug/L
STYRENE	BDL	5	ug/L
1,1,2,2-TETRACHLOROETHANE	BDL	5	ug/L
TETRACHLOROETHENE	BDL	5	ug/L
TETRAHYDROFURAN	BDL	25	ug/L
TOLUENE	BDL	5	ug/L
1,2-DICHLOROETHENE (TOTAL)	BDL	5	ug/L
TRANS-1,3-DICHLOROPROPENE	BDL	5	ug/L
1,1,1-TRICHLOROETHANE	BDL	5	ug/L
1,1,2-TRICHLOROETHANE	BDL	5	ug/L
TRICHLOROETHENE	BDL	5	ug/L
VINYL ACETATE	BDL	10	ug/L
VINYL CHLORIDE	BDL	10	ug/L
XYLENE (TOTAL)	BDL	5	ug/L
...			
SURROGATE RECOVERY			

DICHLOROETHANE-D4	101		% Rec
TOLUENE-D8	110		% Rec
BROMOFLUOROBENZENE	107		% Rec

GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510

Analyst: N. ROHADFOX Analysis Date: 28-OCT-92 Test: P233.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	1000		mL
FINAL VOLUME	1.0		mL

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL/ACID FRACTIONS) SW846-8270

Analyst: G. BARRETT Analysis Date: 30-OCT-92 Instrument: GC/MS SVOA Test: 0505.3.0

Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510 P233.4.0

Parameter	Result	Det. Limit	Units
ACENAPHTHENE	BDL	10	ug/L
ACENAPHTHYLENE	BDL	10	ug/L
ANTHRACENE	BDL	10	ug/L
BENZ(A)ANTHRACENE	BDL	10	ug/L
BENZO(A)PYRENE	BDL	10	ug/L
BENZO(B)FLUORANTHENE	BDL	10	ug/L
BENZO(G,H,I)PERYLENE	BDL	10	ug/L
BENZO(K)FLUORANTHENE	BDL	10	ug/L
BENZYL ALCOHOL	51	10	ug/L
BENZYLBUTYLPHTHALATE	BDL	10	ug/L
BIS(2-CHLOROETHOXY)METHANE	BDL	10	ug/L
BIS(2-CHLOROETHYL)ETHER	BDL	10	ug/L
BIS(2-CHLOROISOPROPYL)ETHER	BDL	10	ug/L
BIS(2-ETHYLHEXYL)PHTHALATE	92	10	ug/L
4-BROMOPHENYLPHENYLETHER	BDL	10	ug/L
CARBAZOLE	BDL	10	ug/L
4-CHLOROANILINE	BDL	10	ug/L
2-CHLORONAPHTHALENE	BDL	10	ug/L
4-CHLOROPHENYLPHENYLETHER	BDL	10	ug/L
CHRYSENE	BDL	10	ug/L

HERITAGE LABORATORIES, INC. Lab Sample ID: A265468

Parameter	Result	Det. Limit	Units
DIBENZ(A,H)ANTHRACENE	BDL	10	ug/L
DIBENZOFURAN	BDL	10	ug/L
1,2-DICHLOROBENZENE	BDL	10	ug/L
1,3-DICHLOROBENZENE	BDL	10	ug/L
1,4-DICHLOROBENZENE	BDL	10	ug/L
3,3'-DICHLOROBENZIDINE	BDL	20	ug/L
DIETHYLPHTHALATE	BDL	10	ug/L
DIMETHYLPHTHALATE	BDL	10	ug/L
DI-N-BUTYLPHTHALATE	BDL	10	ug/L
DINITROBENZENES	BDL	50	ug/L
2,4-DINITROTOLUENE	BDL	10	ug/L
2,6-DINITROTOLUENE	BDL	10	ug/L
DI-N-OCTYLPHTHALATE	BDL	10	ug/L
FLUORANTHENE	BDL	10	ug/L
FLUORENE	BDL	10	ug/L
HEXACHLOROBENZENE	BDL	10	ug/L
HEXACHLOROBUTADIENE	BDL	10	ug/L
HEXACHLOROCYCLOPENTADIENE	BDL	10	ug/L
HEXACHLOROETHANE	BDL	10	ug/L
INDENO(1,2,3-CD)PYRENE	BDL	10	ug/L
ISOPHORONE	BDL	10	ug/L
2-METHYLNAPHTHALENE	BDL	10	ug/L
NAPHTHALENE	BDL	10	ug/L
2-NITROANILINE	BDL	50	ug/L
3-NITROANILINE	BDL	50	ug/L
4-NITROANILINE	BDL	50	ug/L
NITROBENZENE	BDL	10	ug/L
N-NITROSO-DIPHENYLAMINE	BDL	10	ug/L
N-NITROSO-DI-N-PROPYLAMINE	BDL	10	ug/L
PHENANTHRENE	BDL	10	ug/L
2-PICOLINE	BDL	50	ug/L
PYRENE	BDL	10	ug/L
PYRIDINE	BDL	50	ug/L
TETRACHLOROBENZENES	BDL	10	ug/L
TOLUENEDIAMINE	BDL	50	ug/L
1,2,4-TRICHLOROBENZENE	BDL	10	ug/L
BENZOIC ACID	BDL	50	ug/L
4-CHLORO-3-METHYLPHENOL	BDL	10	ug/L
2-CHLOROPHENOL	BDL	10	ug/L
2,4-DICHLOROPHENOL	BDL	10	ug/L
2,4-DIMETHYLPHENOL	BDL	10	ug/L
4,6-DINITRO-2-METHYLPHENOL	BDL	50	ug/L
2,4-DINITROPHENOL	BDL	50	ug/L
2-METHYLPHENOL	BDL	10	ug/L
4-METHYLPHENOL	BDL	10	ug/L
2-NITROPHENOL	BDL	10	ug/L
4-NITROPHENOL	BDL	50	ug/L
PENTACHLOROPHENOL	BDL	50	ug/L
PHENOL	BDL	10	ug/L
TETRACHLOROPHENOL	BDL	10	ug/L
2,4,5-TRICHLOROPHENOL	BDL	50	ug/L
2,4,6-TRICHLOROPHENOL	BDL	10	ug/L
.			
SURROGATE RECOVERY			

2-FLUOROPHENOL	26		% Rec
PHENOL-D5	16		% Rec

HERITAGE LABORATORIES, INC. Lab Sample ID: A265468

Parameter	Result	Det. Limit	Units
NITROBENZENE-D5	78		% Rec
2-FLUOROBIPHENYL	89		% Rec
2,4,6-TRIBROMOPHENOL	25		% Rec
TERPHENYL-D14	89		% Rec

Sample Comments

BDL Below Detection Limit

Sample chain of custody number 15990.

IDEM Drinking Water Certification Number C-49-01
This Certificate shall not be reproduced, except in full, without the written approval of the lab.

Additional copies of this report sent to:
JOE RITCHIE, HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPORTUNITY DRIVE, TOLEDO, OH 43612

Quality Assurance Officer: H A Busch

CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
HERITAGE LABORATORIES, INC. 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8305	27-OCT-92	1871	A265471
	Complete	PO Number	
	12-NOV-92	29-1463	
	Printed	Sampled	
	13-NOV-92	22-OCT-92 15:50	

Report To	Bill To
JEFF STEVENS HERITAGE REMEDIATION/ENGINEERING, INC 5656 OPPORTUNITY DRIVE TOLEDO, OH 43612	STEVE SMITH HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPURTUNITY DRIVE TOLEDO, OH 43612

Sample Description

SAMPLE ID: 10222
DESCRIPTION: FAUCET NEAR PIT
PROJECT: DUPONT TOLEDO, OH
HRE JOB NO.: 62026
PROJECT NAME
PROJECT NUMBER
SAMPLE DESCRIPTION

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005

Analyst: C. COFFEY Analysis Date: 04-NOV-92 Test: P130.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL WEIGHT OR VOLUME	50		mL

GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020

Analyst: S. SNYDER Analysis Date: 04-NOV-92 Test: P130.6.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL WEIGHT OR VOLUME	50		mL

MERCURY CVAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-7470

Analyst: R. BYERS Analysis Date: 06-NOV-92 Test: P131.6.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL VOLUME	100		mL

ARSENIC GFAA SW846-7060

Analyst: M. BAUER Analysis Date: 06-NOV-92 Instrument: GFAA Test: M103.2.0

Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
ARSENIC	BDL	0.0050	mg/L

BARIUM ICP SW846-6010

Analyst: M. JAO Analysis Date: 05-NOV-92 Instrument: ICP Test: M104.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
BARIUM	BDL	0.010	mg/L

CADMIUM GFAA SW846-7131

Analyst: J. VANSKYOCK Analysis Date: 11-NOV-92 Instrument: GFAA Test: M108.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
CADMIUM	BDL	0.0010	mg/L

CHROMIUM ICP SW846-6010

Analyst: M. JAO Analysis Date: 05-NOV-92 Instrument: ICP Test: M110.3.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
CHROMIUM	BDL	0.010	mg/L

LEAD GFAA SW846-7421

Analyst: M. BAUER Analysis Date: 09-NOV-92 Instrument: GFAA Test: M116.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
LEAD	BDL	0.0050	mg/L

MERCURY CVAA SW846-7470

Analyst: K. HACK Analysis Date: 07-NOV-92 Instrument: CVAA Test: M120.1.0
Prep: MERCURY CVAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-7470 P131.6.0

Parameter	Result	Det. Limit	Units
MERCURY	BDL	0.00020	mg/L

SELENIUM GFAA SW846-7740

Analyst: W. WATNESS Analysis Date: 06-NOV-92 Instrument: GFAA Test: M128.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
SELENIUM	BDL	0.0050	mg/L

SILVER ICP SW846-6010

Analyst: M. JAO Analysis Date: 05-NOV-92 Instrument: ICP Test: M130.3.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
SILVER	BDL	0.010	mg/L

VOLATILE ORGANICS SW846-8240

Analyst: T. WIEGAND Analysis Date: 03-NOV-92 Instrument: GC/MS VOA Test: O510.3.0

Parameter	Result	Det. Limit	Units
ACETONE	BDL	20	ug/L
ACROLEIN	BDL	50	ug/L
ACRYLONITRILE	BDL	70	ug/L
BENZENE	BDL	5	ug/L
BROMODICHLOROMETHANE	EST 5	5	ug/L
BROMOFORM	BDL	5	ug/L
BROMOMETHANE	BDL	10	ug/L
CARBON DISULFIDE	BDL	5	ug/L
CARBON TETRACHLORIDE	BDL	5	ug/L
CHLOROBENZENE	BDL	5	ug/L
CHLOROETHANE	BDL	10	ug/L
CHLOROFORM	8	5	ug/L
CHLOROMETHANE	BDL	10	ug/L
DIBROMOCHLOROMETHANE	BDL	5	ug/L
CIS-1,3-DICHLOROPROPENE	BDL	5	ug/L
DICHLORODIFLUOROMETHANE	BDL	5	ug/L
1,1-DICHLOROETHANE	BDL	5	ug/L
1,2-DICHLOROETHANE	BDL	5	ug/L
1,1-DICHLOROETHENE	BDL	5	ug/L

Parameter	Result	Det. Limit	Units
1,2-DICHLOROPROPANE	BDL	5	ug/L
ETHYLBENZENE	BDL	5	ug/L
FLUOROTRICHLOROMETHANE	BDL	5	ug/L
2-HEXANONE	BDL	10	ug/L
METHYLENE CHLORIDE	BDL	5	ug/L
METHYL ETHYL KETONE	BDL	10	ug/L
4-METHYL-2-PENTANONE	BDL	10	ug/L
STYRENE	BDL	5	ug/L
1,1,2,2-TETRACHLOROETHANE	BDL	5	ug/L
TETRACHLOROETHENE	BDL	5	ug/L
TETRAHYDROFURAN	BDL	25	ug/L
TOLUENE	BDL	5	ug/L
1,2-DICHLOROETHENE (TOTAL)	BDL	5	ug/L
TRANS-1,3-DICHLOROPROPENE	BDL	5	ug/L
1,1,1-TRICHLOROETHANE	BDL	5	ug/L
1,1,2-TRICHLOROETHANE	BDL	5	ug/L
TRICHLOROETHENE	BDL	5	ug/L
VINYL ACETATE	BDL	10	ug/L
VINYL CHLORIDE	BDL	10	ug/L
XYLENE (TOTAL)	BDL	5	ug/L
...			
SURROGATE RECOVERY			

DICHLOROETHANE-D4	103		% Rec
TOLUENE-D8	110		% Rec
BROMOFLUOROBENZENE	108		% Rec

GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510

Analyst: N. ROHADFOX Analysis Date: 28-OCT-92 Test: P233.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	1000		mL
FINAL VOLUME	1.0		mL

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL/ACID FRACTIONS) SW846-8270

Analyst: G. BARRETT Analysis Date: 02-NOV-92 Instrument: GC/MS SVOA Test: 0505.3.0

Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510 P233.4.0

Parameter	Result	Det. Limit	Units
ACENAPHTHENE	BDL	10	ug/L
ACENAPHTHYLENE	BDL	10	ug/L
ANTHRACENE	BDL	10	ug/L
BENZ(A)ANTHRACENE	BDL	10	ug/L
BENZO(A)PYRENE	BDL	10	ug/L
BENZO(B)FLUORANTHENE	BDL	10	ug/L
BENZO(G,H,I)PERYLENE	BDL	10	ug/L
BENZO(K)FLUORANTHENE	BDL	10	ug/L
BENZYL ALCOHOL	BDL	10	ug/L
BENZYLBUTYLPHTHALATE	BDL	10	ug/L
BIS(2-CHLOROETHOXY)METHANE	BDL	10	ug/L
BIS(2-CHLOROETHYL)ETHER	BDL	10	ug/L
BIS(2-CHLOROISOPROPYL)ETHER	BDL	10	ug/L
BIS(2-ETHYLHEXYL)PHTHALATE	BDL	10	ug/L
4-BROMOPHENYLPHENYLETHER	BDL	10	ug/L
CARBAZOLE	BDL	10	ug/L
4-CHLOROANILINE	BDL	10	ug/L
2-CHLORONAPHTHALENE	BDL	10	ug/L
4-CHLOROPHENYLPHENYLETHER	BDL	10	ug/L
CHRYSENE	BDL	10	ug/L

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Parameter	Result	Det. Limit	Units
DIBENZ(A,H)ANTHRACENE	BDL	10	ug/L
DIBENZOFURAN	BDL	10	ug/L
1,2-DICHLOROBENZENE	BDL	10	ug/L
1,3-DICHLOROBENZENE	BDL	10	ug/L
1,4-DICHLOROBENZENE	BDL	10	ug/L
3,3'-DICHLOROBENZIDINE	BDL	20	ug/L
DIETHYLPHTHALATE	BDL	10	ug/L
DIMETHYLPHTHALATE	BDL	10	ug/L
DI-N-BUTYLPHTHALATE	BDL	10	ug/L
DINITROBENZENES	BDL	50	ug/L
2,4-DINITROTOLUENE	BDL	10	ug/L
2,6-DINITROTOLUENE	BDL	10	ug/L
DI-N-OCTYLPHTHALATE	BDL	10	ug/L
FLUORANTHENE	BDL	10	ug/L
FLUORENE	BDL	10	ug/L
HEXACHLOROBENZENE	BDL	10	ug/L
HEXACHLOROBUTADIENE	BDL	10	ug/L
HEXACHLOROCYCLOPENTADIENE	BDL	10	ug/L
HEXACHLOROETHANE	BDL	10	ug/L
INDENO(1,2,3-CD)PYRENE	BDL	10	ug/L
ISOPHORONE	BDL	10	ug/L
2-METHYLNAPHTHALENE	BDL	10	ug/L
NAPHTHALENE	BDL	10	ug/L
2-NITROANILINE	BDL	50	ug/L
3-NITROANILINE	BDL	50	ug/L
4-NITROANILINE	BDL	50	ug/L
NITROBENZENE	BDL	10	ug/L
N-NITROSO-DIPHENYLAMINE	BDL	10	ug/L
N-NITROSO-DI-N-PROPYLAMINE	BDL	10	ug/L
PHENANTHRENE	BDL	10	ug/L
2-PICOLINE	BDL	50	ug/L
PYRENE	BDL	10	ug/L
PYRIDINE	BDL	50	ug/L
TETRACHLOROBENZENES	BDL	10	ug/L
TOLUENEDIAMINE	BDL	50	ug/L
1,2,4-TRICHLOROBENZENE	BDL	10	ug/L
BENZOIC ACID	BDL	50	ug/L
4-CHLORO-3-METHYLPHENOL	BDL	10	ug/L
2-CHLOROPHENOL	BDL	10	ug/L
2,4-DICHLOROPHENOL	BDL	10	ug/L
2,4-DIMETHYLPHENOL	BDL	10	ug/L
4,6-DINITRO-2-METHYLPHENOL	BDL	50	ug/L
2,4-DINITROPHENOL	BDL	50	ug/L
2-METHYLPHENOL	BDL	10	ug/L
4-METHYLPHENOL	BDL	10	ug/L
2-NITROPHENOL	BDL	10	ug/L
4-NITROPHENOL	BDL	50	ug/L
PENTACHLOROPHENOL	BDL	50	ug/L
PHENOL	BDL	10	ug/L
TETRACHLOROPHENOL	BDL	10	ug/L
2,4,5-TRICHLOROPHENOL	BDL	50	ug/L
2,4,6-TRICHLOROPHENOL	BDL	10	ug/L
SURROGATE RECOVERY			
2-FLUOROPHENOL	49		% Rec
PHENOL-D5	33		% Rec

HERITAGE LABORATORIES, INC. Lab Sample ID: A265471

Parameter	Result	Det. Limit	Units
NITROBENZENE-D5	105		% Rec
2-FLUOROBIPHENYL	89		% Rec
2,4,6-TRIBROMOPHENOL	70		% Rec
TERPHENYL-D14	98		% Rec

Sample Comments

BDL Below Detection Limit
EST Estimated Value

Sample chain of custody number 15990.

IDEM Drinking Water Certification Number C-49-01
This Certificate shall not be reproduced, except in full, without the written approval of the lab.

Additional copies of this report sent to:
JOE RITCHIE, HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPORTUNITY DRIVE, TOLEDO, OH 43612

Quality Assurance Officer: _____

CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
HERITAGE LABORATORIES, INC. 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8305	27-OCT-92	1871	A265472
	Complete: 12-NOV-92	PO Number: 29-1463	
	Printed: 13-NOV-92	Sampled: 23-OCT-92 10:15	

Report To	Bill To
JEFF STEVENS HERITAGE REMEDIATION/ENGINEERING, INC 5656 OPPORTUNITY DRIVE TOLEDO, OH 43612	STEVE SMITH HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPURTUNITY DRIVE TOLEDO, OH 43612

Sample Description

SAMPLE ID: 10233
DESCRIPTION: TANK 14 RINSEATE
PROJECT: DUPONT TOLEDO, OH
HRE JOB NO.: 62026
PROJECT NAME
PROJECT NUMBER
SAMPLE DESCRIPTION

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005

Analyst: C. COFFEY Analysis Date: 04-NOV-92 Test: P130.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL WEIGHT OR VOLUME	50		mL

GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020

Analyst: S. SNYDER Analysis Date: 04-NOV-92 Test: P130.6.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL WEIGHT OR VOLUME	50		mL

MERCURY CVAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-7470

Analyst: R. BYERS Analysis Date: 06-NOV-92 Test: P131.6.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL VOLUME	100		mL

ARSENIC GFAA SW846-7060

Analyst: M. BAUER Analysis Date: 06-NOV-92 Instrument: GFAA Test: M103.2.0

Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
ARSENIC	BDL	0.0050	mg/L

BARIUM ICP SW846-6010

Analyst: M. JAO Analysis Date: 05-NOV-92 Instrument: ICP Test: M104.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
BARIUM	BDL	0.010	mg/L

CADMIUM GFAA SW846-7131

Analyst: J. VANSKYOCK Analysis Date: 11-NOV-92 Instrument: GFAA Test: M108.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
CADMIUM	0.0024	0.0020	mg/L
1:2 DILUTION			

CHROMIUM ICP SW846-6010

Analyst: M. JAO Analysis Date: 05-NOV-92 Instrument: ICP Test: M110.3.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
CHROMIUM	BDL	0.010	mg/L

LEAD GFAA SW846-7421

Analyst: M. BAUER Analysis Date: 09-NOV-92 Instrument: GFAA Test: M116.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
LEAD	0.0055	0.0050	mg/L

MERCURY CVAA SW846-7470

Analyst: K. HACK Analysis Date: 07-NOV-92 Instrument: CVAA Test: M120.1.0
Prep: MERCURY CVAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-7470 P131.6.0

Parameter	Result	Det. Limit	Units
MERCURY	BDL	0.00020	mg/L

SELENIUM GFAA SW846-7740

Analyst: W. WATNESS Analysis Date: 06-NOV-92 Instrument: GFAA Test: M128.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
SELENIUM	BDL	0.0050	mg/L

SILVER ICP SW846-6010

Analyst: M. JAO Analysis Date: 05-NOV-92 Instrument: ICP Test: M130.3.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
SILVER	BDL	0.010	mg/L

VOLATILE ORGANICS SW846-8240

Analyst: T. WIEGAND Analysis Date: 03-NOV-92 Instrument: GC/MS VOA Test: 0510.3.0

Parameter	Result	Det. Limit	Units
ACETONE	52	20	ug/L
ACROLEIN	BDL	50	ug/L
ACRYLONITRILE	BDL	70	ug/L
BENZENE	BDL	5	ug/L
BROMODICHLOROMETHANE	BDL	5	ug/L
BROMOFORM	BDL	5	ug/L
BROMOMETHANE	BDL	10	ug/L
CARBON DISULFIDE	BDL	5	ug/L
CARBON TETRACHLORIDE	BDL	5	ug/L
CHLOROBENZENE	BDL	5	ug/L
CHLOROETHANE	BDL	10	ug/L
CHLOROFORM	BDL	5	ug/L
CHLOROMETHANE	BDL	10	ug/L
DIBROMOCHLOROMETHANE	BDL	5	ug/L
CIS-1,3-DICHLOROPROPENE	BDL	5	ug/L
DICHLORODIFLUOROMETHANE	BDL	5	ug/L
1,1-DICHLOROETHANE	BDL	5	ug/L

Parameter	Result	Det. Limit	Units
1,2-DICHLOROETHANE	BDL	5	ug/L
1,1-DICHLOROETHENE	BDL	5	ug/L
1,2-DICHLOROPROPANE	BDL	5	ug/L
ETHYLBENZENE	BDL	5	ug/L
FLUOROTRICHLOROMETHANE	BDL	5	ug/L
2-HEXANONE	BDL	10	ug/L
METHYLENE CHLORIDE	BDL	5	ug/L
METHYL ETHYL KETONE	BDL	10	ug/L
4-METHYL-2-PENTANONE	BDL	10	ug/L
STYRENE	BDL	5	ug/L
1,1,2,2-TETRACHLOROETHANE	BDL	5	ug/L
TETRACHLOROETHENE	BDL	5	ug/L
TETRAHYDROFURAN	BDL	25	ug/L
TOLUENE	BDL	5	ug/L
1,2-DICHLOROETHENE (TOTAL)	BDL	5	ug/L
TRANS-1,3-DICHLOROPROPENE	BDL	5	ug/L
1,1,1-TRICHLOROETHANE	BDL	5	ug/L
1,1,2-TRICHLOROETHANE	BDL	5	ug/L
TRICHLOROETHENE	BDL	5	ug/L
VINYL ACETATE	BDL	10	ug/L
VINYL CHLORIDE	BDL	10	ug/L
XYLENE (TOTAL)	BDL	5	ug/L
...			
SURROGATE RECOVERY			

DICHLOROETHANE-D4	106		% Rec
TOLUENE-D8	110		% Rec
BROMOFLUOROBENZENE	106		% Rec

SAMPLE PH = 7

GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510

Analyst: N. ROHADFOX Analysis Date: 28-OCT-92 Test: P233.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	1000		mL
FINAL VOLUME	1.0		mL

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL/ACID FRACTIONS) SW846-8270

Analyst: G. BARRETT Analysis Date: 02-NOV-92 Instrument: GC/MS SVOA Test: 0505.3.0

Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510 P233.4.0

Parameter	Result	Det. Limit	Units
ACENAPHTHENE	BDL	10	ug/L
ACENAPHTHYLENE	BDL	10	ug/L
ANTHRACENE	BDL	10	ug/L
BENZ(A)ANTHRACENE	BDL	10	ug/L
BENZO(A)PYRENE	BDL	10	ug/L
BENZO(B)FLUORANTHENE	BDL	10	ug/L
BENZO(G,H,I)PERYLENE	BDL	10	ug/L
BENZO(K)FLUORANTHENE	BDL	10	ug/L
BENZYL ALCOHOL	BDL	10	ug/L
BENZYLBUTYLPHTHALATE	BDL	10	ug/L
BIS(2-CHLOROETHOXY)METHANE	BDL	10	ug/L
BIS(2-CHLOROETHYL)ETHER	BDL	10	ug/L
BIS(2-CHLOROISOPROPYL)ETHER	BDL	10	ug/L
BIS(2-ETHYLHEXYL)PHTHALATE	BDL	10	ug/L
4-BROMOPHENYLPHENYLETHER	BDL	10	ug/L
CARBAZOLE	BDL	10	ug/L

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Parameter	Result	Det. Limit	Units
4-CHLOROANILINE	BDL	10	ug/L
2-CHLORONAPHTHALENE	BDL	10	ug/L
4-CHLOROPHENYLPHENYLETHER	BDL	10	ug/L
CHRYSENE	BDL	10	ug/L
DIBENZ(A,H)ANTHRACENE	BDL	10	ug/L
DIBENZOFURAN	BDL	10	ug/L
1,2-DICHLOROBENZENE	BDL	10	ug/L
1,3-DICHLOROBENZENE	BDL	10	ug/L
1,4-DICHLOROBENZENE	BDL	10	ug/L
3,3'-DICHLOROBENZIDINE	BDL	20	ug/L
DIETHYLPHTHALATE	BDL	10	ug/L
DIMETHYLPHTHALATE	BDL	10	ug/L
DI-N-BUTYLPHTHALATE	BDL	10	ug/L
DINITROBENZENES	BDL	50	ug/L
2,4-DINITROTOLUENE	BDL	10	ug/L
2,6-DINITROTOLUENE	BDL	10	ug/L
DI-N-OCTYLPHTHALATE	BDL	10	ug/L
FLUORANTHENE	BDL	10	ug/L
FLUORENE	BDL	10	ug/L
HEXACHLOROBENZENE	BDL	10	ug/L
HEXACHLOROBUTADIENE	BDL	10	ug/L
HEXACHLOROCYCLOPENTADIENE	BDL	10	ug/L
HEXACHLOROETHANE	BDL	10	ug/L
INDENO(1,2,3-CD)PYRENE	BDL	10	ug/L
ISOPHORONE	BDL	10	ug/L
2-METHYLNAPHTHALENE	BDL	10	ug/L
NAPHTHALENE	BDL	10	ug/L
2-NITROANILINE	BDL	50	ug/L
3-NITROANILINE	BDL	50	ug/L
4-NITROANILINE	BDL	50	ug/L
NITROBENZENE	BDL	10	ug/L
N-NITROSO-DIPHENYLAMINE	BDL	10	ug/L
N-NITROSO-DI-N-PROPYLAMINE	BDL	10	ug/L
PHENANTHRENE	BDL	10	ug/L
2-PICOLINE	BDL	50	ug/L
PYRENE	BDL	10	ug/L
PYRIDINE	BDL	50	ug/L
TETRACHLOROBENZENES	BDL	10	ug/L
TOLUENEDIAMINE	BDL	50	ug/L
1,2,4-TRICHLOROBENZENE	BDL	10	ug/L
BENZOIC ACID	BDL	50	ug/L
4-CHLORO-3-METHYLPHENOL	BDL	10	ug/L
2-CHLOROPHENOL	BDL	10	ug/L
2,4-DICHLOROPHENOL	BDL	10	ug/L
2,4-DIMETHYLPHENOL	BDL	10	ug/L
4,6-DINITRO-2-METHYLPHENOL	BDL	50	ug/L
2,4-DINITROPHENOL	BDL	50	ug/L
2-METHYLPHENOL	BDL	10	ug/L
4-METHYLPHENOL	BDL	10	ug/L
2-NITROPHENOL	BDL	10	ug/L
4-NITROPHENOL	BDL	50	ug/L
PENTACHLOROPHENOL	BDL	50	ug/L
PHENOL	BDL	10	ug/L
TETRACHLOROPHENOL	BDL	10	ug/L
2,4,5-TRICHLOROPHENOL	BDL	50	ug/L
2,4,6-TRICHLOROPHENOL	BDL	10	ug/L

HERITAGE LABORATORIES, INC. Lab Sample ID: A265472

Parameter	Result	Det. Limit	Units
SURROGATE RECOVERY			
2-FLUOROPHENOL	30		% Rec
PHENOL-D5	34		% Rec
NITROBENZENE-D5	98		% Rec
2-FLUOROBIPHENYL	82		% Rec
2,4,6-TRIBROMOPHENOL	33		% Rec
TERPHENYL-D14	88		% Rec

Sample Comments

BDL Below Detection Limit

Sample chain of custody number 15990.

IDEM Drinking Water Certification Number C-49-01
This Certificate shall not be reproduced, except in full, without the written approval of the lab.

Additional copies of this report sent to:
JOE RITCHIE, HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPORTUNITY DRIVE, TOLEDO, OH 43612

Quality Assurance Officer: _____

CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
HERITAGE LABORATORIES, INC. 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8305	27-OCT-92	1871	A265473
	Complete	PO Number	
	04-NOV-92	29-1463	
	Printed	Sampled	
	06-NOV-92	22-OCT-92	

Report To	Bill To
JEFF STEVENS HERITAGE REMEDIATION/ENGINEERING, INC 5656 OPPORTUNITY DRIVE TOLEDO, OH 43612	STEVE SMITH HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPURTUNITY DRIVE TOLEDO, OH 43612

Sample Description

SAMPLE ID: 10225
DESCRIPTION: TRIP BLANK
PROJECT: DUPONT TOLEDO, OH
HRE JOB NO.: 62026
PROJECT NAME
PROJECT NUMBER
SAMPLE DESCRIPTION

VOLATILE ORGANICS SW846-8240

Analyst: T. WIEGAND Analysis Date: 03-NOV-92 Instrument: GC/MS VOA Test: 0510.3.0

Parameter	Result	Det. Limit	Units
CETONE	BDL	20	ug/L
ACROLEIN	BDL	50	ug/L
ACRYLONITRILE	BDL	70	ug/L
BENZENE	BDL	5	ug/L
BROMODICHLOROMETHANE	BDL	5	ug/L
BROMOFORM	BDL	5	ug/L
BROMOMETHANE	BDL	10	ug/L
CARBON DISULFIDE	BDL	5	ug/L
CARBON TETRACHLORIDE	BDL	5	ug/L
CHLOROBENZENE	BDL	5	ug/L
CHLOROETHANE	BDL	10	ug/L
CHLOROFORM	BDL	5	ug/L
CHLOROMETHANE	BDL	10	ug/L
DIBROMOCHLOROMETHANE	BDL	5	ug/L
CIS-1,3-DICHLOROPROPENE	BDL	5	ug/L
DICHLORODIFLUOROMETHANE	BDL	5	ug/L
1,1-DICHLOROETHANE	BDL	5	ug/L
1,2-DICHLOROETHANE	BDL	5	ug/L
1,1-DICHLOROETHENE	BDL	5	ug/L
1,2-DICHLOROPROPANE	BDL	5	ug/L
ETHYLBENZENE	BDL	5	ug/L
FLUOROTRICHLOROMETHANE	BDL	5	ug/L
2-HEXANONE	BDL	10	ug/L
METHYLENE CHLORIDE	BDL	5	ug/L
METHYL ETHYL KETONE	BDL	10	ug/L
4-METHYL-2-PENTANONE	BDL	10	ug/L
STYRENE	BDL	5	ug/L
1,1,2,2-TETRACHLOROETHANE	BDL	5	ug/L
TETRACHLOROETHENE	BDL	5	ug/L

NOV RECD

HERITAGE LABORATORIES, INC. Lab Sample ID: A265473

Parameter	Result	Det. Limit	Units
TETRAHYDROFURAN	BDL	25	ug/L
OLUENE	BDL	5	ug/L
,2-DICHLOROETHENE (TOTAL)	BDL	5	ug/L
TRANS-1,3-DICHLOROPROPENE	BDL	5	ug/L
1,1,1-TRICHLOROETHANE	BDL	5	ug/L
1,1,2-TRICHLOROETHANE	BDL	5	ug/L
TRICHLOROETHENE	BDL	5	ug/L
VINYL ACETATE	BDL	10	ug/L
VINYL CHLORIDE	BDL	10	ug/L
XYLENE (TOTAL)	BDL	5	ug/L
...			
SURROGATE RECOVERY			

DICHLOROETHANE-D4	106		% Rec
TOLUENE-D8	109		% Rec
BROMOFLUOROBENZENE	107		% Rec

Sample Comments

BDL Below Detection Limit

Sample chain of custody number 15990.

IDEM Drinking Water Certification Number C-49-01
This Certificate shall not be reproduced, except in full, without the written approval of the lab.

Additional copies of this report sent to:
JOE RITCHIE, HERITAGE REMEDIATION/ENGINEERING, INC.
656 OPPORTUNITY DRIVE, TOLEDO, OH 43612

Quality Assurance Officer: _____

15990

EMS HERITAGE LABORATORIES, INC.

4132 POMPANO ROAD
CHARLOTTE, N.C. 28216 (704) 393-1853

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST FORM

Co. Name: Dupont Automotive Finishes (JOB # 62026)

Project Name: RCRA Tank Closure

Quote No.:

PO No.: 29-1463

ENVIRONMENTAL PROGRAM:

CWA ___ NPDES ___ IWP ___ SLUDGE ___

RCRA ✓ MW ___ SW ___ DISPOSAL ___

SDWA ___ CERCLA/SUPERFUND ___ OTHER ___

Sampled by: SK, SM

Report To:

Co:

Add:

Attn: Joe Kitchey

Phone: 800-377-9886

Accelerated Turnaround Requested ___
(Subject to Additional Charge)

Result Request by: / / (Mo Day Yr)
(Date must be Accepted and Approved by Lab)

Analyses Requested: (Note special detection limits or methods)

Sample I.D.	Date	Time	Comp	Grab	Sample Description	Sample Type (Matrix): DW, GW, WW, Soil, Oil, Sludge, Other	No. of Containers	Voc SW846-8240	Semi Voc SW846-8270	Metals SW846-6010 except Hg (ICP/FAA w Det. Lim of .005 or less)		Hg SW846-7470 (GFAA)						Remarks	EMS Sample No.
1022	10/26/92	PM		X	Rinseate From Pit (Tanker)	W	5	X	X	X		X		A265468				Quote Reference # Z111892	A265415
10224	10/26/92	AM		X	Faucet Near Pit	W	5	X	X	X		X		471	469			9	416
10233	10/26/92	AM		X	Tank M Rinseate	W	5	X	X	X		X		472	470			2 week turn	417
10225	10/26/92			X	Trip Blank From Indy	W	3	X						473	471				418

Note: Samples need to be extracted expeditiously to beat hold times.

Please Call if you have any questions. Thanks
Steve

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Steven Klemm	10/26/92 1630	UPS Express		/	
	/			/	

Relinquished by: (Signature)	Date/Time	Received for Lab by: (Signature)	Remarks:
	10/27/92 10:42	Patricia L Majors	pH level is ok PLM 10/27/92

Distribution: Yellow copy returned to client. Pink copy to be retained by client.

APPENDIX II

WASTE MANIFESTS

CHEMTREC - DAY OR NIGHT
800-424-9300 (TOLL FREE)
WASHINGTON, D.C. 483-7616
OUTSIDE CONTINENTAL U.S.A. (202) 483-7616

SID NUMBER MUST BE SHOWN ON ALL FREIGHT BILLS AND CORRESPONDENCE

Shipment Identification Number: SID-SID-SID-SID-SID-SID-SID-SID-SID-SID-SID-SID-SID-S 92193 HWM SID-SID-SID-SID-SID-SID-SID-SID-SID-SID-SID-SID-SID-D

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No. 2050-0039 Expires 9-30-92

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: OHD005041843 — Manifest Document No.: 92193
2. Page 1 of 1
Information in the shaded areas is not required by Federal law.

GENERATOR

3. Generator's Name and Mailing Address
E.I. DuPont de Nemours & Co., Inc.
1930 Tremainsville Rd.
Toledo, Ohio 43613
4. Generator's Phone (419) 478-1211

A. State Manifest Document Number

B. State Generator's ID

5. Transporter 1 Company Name: Metropolitan Environmental, Inc.
6. US EPA ID Number: TNT1900103977
C. State Transporter's ID
D. Transporter's Phone: 419-586-6638

7. Transporter 2 Company Name
8. US EPA ID Number
E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
LaFarge/Systech Corp.
11397 County Rd. 176
Paulding, Ohio 45879
10. US EPA ID Number: OHD005048947
G. State Facility's ID
H. Facility's Phone: 419-399-4835

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. HM RQ RQ Waste Flammable Liquid n.o.s. (Xylene, Methyl Ethyl Ketone) UN 1993 (D001, D005, D007, D008)	001	TT	5500 38560	G P	D001, D005 D007, D008
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
D035, F003, F005

K. Handling Codes for Wastes Listed Above
AA-12996
wot-12

15. Special Handling Instructions and Additional Information
ERG #27
24-hour 419-478-1211

(Rail, Cargo Tank, Portable Tank, Freight Container)
X Placarded Flammable (Name of Placard)
(Truck – 1,000 lbs. or More)
Placards Provided

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

If I am a large quantity generator I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment OR if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method available to me and which I can afford.

Printed/Typed Name: Denise Trabbic-Clement
Signature: Denise Trabbic-Clement
Date: Month 10 Day 16 Year 92

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: TROY KOVENBERGER
Signature: T Kovenberger
Date: Month 10 Day 26 Year 92

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Date: Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name
Signature
Date: Month Day Year

EPA Form 8700-22 (3-87)

DuPont Form TD-10620 Rev. 10/91

Department of Pollution Control and Ecology
P. O. Box 8913 Little Rock, Arkansas 72219-8913
Telephone 501-562-7444

1

Please print or type: (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039. Expires 9-30-92

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: OHD005041843 — Manifest Document No.: 92210

2. Page 1 of 1

Information in the shaded areas is not required by Federal law.

A. State Manifest Document Number: AR-581275 1

3. Generator's Name and Mailing Address
E.I. Du Pont De Nemours & Co. Attn: DeniseTrabbic-Clement
1930 Tremainsville Road Toledo , OH 43613

B. State Generator's ID

4. Generator's Phone (419-478-1211

5. Transporter 1 Company Name: Morrow Bulk Commodities Inc.
6. US EPA ID Number: OHD987021029

C. State Transporter's ID: PC 1122 H 664
D. Transporter's Phone: 419-836-6187

7. Transporter 2 Company Name
8. US EPA ID Number

E. State Transporter's ID: PC ____ H ___
F. Transporter's Phone

9. Designated Facility Name and Site Address
Rineco
1007 Vulcan Rd. - Haskell
Benton, AR. 72015

10. US EPA ID Number: ARD981057870

G. State Facility's ID
H. Facility's Phone: 501/778-9089

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. Waste Flammable Liquid, N.O.S. (Toluene / N-Butyl Alcohol) 3 UN1993 PGIII RQ (D007, D008)	71	DM	20540	P G	D001,D005,D007,D008 D035,F003,F005
b. Hazardous Waste Solid, n.o.s. ORM-E NA 9189	4	CF	2000 est.	P	D001, D005 D007, D008 D035, F003 F005
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. 9209-4463 ERG#27 (Paint & Paint Contaminated)
b. 9210-5925 ERG#31 (Wrangler)

if no alternate TSDF, return to generator

K. Handling Codes for Wastes Listed Above
EMERGENCY RESPONSE INFORMATION:
DeniseTrabbic-Clement /Chemtrec
419-478-1211 800-424-9300

15. Special Handling Instructions and Additional Information

Placcard Flammable

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and Arkansas state regulations.
If I am a large quantity generator, I certify that I have a program in place to reduce the volumn and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: Denise Trabbic-Clement — Signature: Denise Trabbic-Clement — Month Day Year: 11 23 92

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: John E Pointer — Signature: John E Pointer — Month Day Year: 11 23 92

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name — Signature — Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: RAY L. REAGAN — Signature: Ray L Reagan — Month Day Year: 11 24 92

EPA Form 8700-22 (Rev. 9-88) Previous edition is obsolete.

NOTICE: THE ORIGINAL AND NOT LESS THAN TWO (2) COPIES MUST MOVE WITH THE HAZARDOUS WASTE SHIPMENT. ONCE DELIVERED, THE TREATMENT, STORAGE, DISPOSAL FACILITY MUST RETURN THIS ORIGINAL COPY TO THE GENERATOR.

FOR CHEMICAL EMERGENCY
SPILL, LEAK, FIRE EXPOSURE OR ACCIDENT
CALL CHEMTREC - DAY OR NIGHT
800-424-9300 (TOLL FREE)
WASHINGTON, D.C. 483-7616
OUTSIDE CONTINENTAL U.S.A. (202) 483-7616

SID NUMBER MUST BE SHOWN ON ALL FREIGHT BILLS AND CORRESPONDENCE

Shipment Identification Number: SID-SID-SID-SID-SID-SID-SID-SID-SID-SID-SID-SID-S D S 9 2 2 0 1 HWM D S D-SID-SID-SID-SID-SID-SID-SID-SID-SID-SID-SID-SI O

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No. 2050-0039 Expires 9-30-92

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: O H D 0 0 5 0 4 1 8 4 3 — Manifest Document No.: 9 2 2 0 1

2. Page 1 of 1

Information in the shaded areas is not required by Federal law.

GENERATOR

3. Generator's Name and Mailing Address
E.I. DuPont de Nemours & Co., Inc.
1930 Tremainsville Rd.
Toledo, Ohio 43613
4. Generator's Phone (419) 478-1211

A. State Manifest Document Number

B. State Generator's ID

5. Transporter 1 Company Name: Metropolitan Environmental Inc.
6. US EPA ID Number: I N T 1 9 0 0 1 0 3 9 7
C. State Transporter's ID
D. Transporter's Phone 419-586-6638

7. Transporter 2 Company Name
8. US EPA ID Number
E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
LaFarge/Systech Corp.
11397 County Rd. 176
Paulding, Ohio 45879
10. US EPA ID Number: O H D 0 0 5 0 4 8 9 4 7
G. State Facility's ID
H. Facility's Phone 419-399-4835

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. HM RQ RQ Waste Flammable Liquid, n.o.s. (Xylene, Methyl Ethyl Ketone) UN 1993 (D001, D005, D007, D008)	001	TT	5200 4080	G P	D001, D005 D007, D008
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
D035, F003, F005

K. Handling Codes for Wastes Listed Above
AA-12996
WOT-12

15. Special Handling Instructions and Additional Information
ERG #27
24-hour (419) 478-1211

(Rail, Cargo Tank, Portable Tank, Freight Container)
X Placarded Flammable (Name of Placard)
(Truck – 1,000 lbs. or More)
– Placards Provided

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment OR if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method available to me and which I can afford.

Printed/Typed Name: Denise Trabbic-Clement
Signature: Denise Trabbic-Clement
Date: Month 11 Day 04 Year 92

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Roy Rodenberger
Signature: R Rodenberger
Date: Month 10 Day 04 Year 92

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Date: Month . Day . Year .

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name:
Signature:
Date: Month . Day . Year .

HAZARDOUS WASTE

STORAGE FACILITY

PART B CLOSURE REPORT

TANK # 14

E.I. DUPONT DE NEMOURS & CO.

TOLEDO AP PLANT

PREPARED FOR:

E.I. DuPont de Nemours & Co.
Toledo AP Plant
1930 Tremainsville Road
Toledo, Ohio 43613

PREPARED BY:

Heritage Remediation/Engineering, Inc.
5656 Opportunity Drive
Toledo, Ohio 43612-2922

March 3, 1993

HERITAGE®

HAZARDOUS WASTE STORAGE FACILITY
PART B CLOSURE REPORT
TANK # 14
E.I. DUPONT DE NEMOURS & CO.
TOLEDO AP PLANT

PREPARED FOR:

E.I. DUPONT DE NEMOURS & CO.
TOLEDO AP PLANT
1930 TREMAINSVILLE ROAD
TOLEDO, OHIO 43613
419-478-1211

PREPARED BY:

HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPORTUNITY DRIVE
TOLEDO OH 43612-2922

Certified By:

Joseph D. Ritchey, P.E.
Ohio Reg. No. E-53107
April 5, 1993

HAZARDOUS WASTE STORAGE FACILITY
PART B CLOSURE REPORT FOR TANK # 14

E.I. DUPONT DE NEMOURS & CO.
TOLEDO AP PLANT
1930 TREMAINSVILLE ROAD
TOLEDO, OH 43613

TABLE OF CONTENTS

1.0 INTRODUCTION

1.1 Closure Plan

The activities described herein were conducted in accordance with the approved Hazardous Waste Storage Facility Part B Closure Plan dated May 19, 1992. The referenced plan describes closure activities for all of the Toledo AP Plant areas including Tank #14.

1.2 FACILITY DESCRIPTION

The E. I. DuPont de Nemours & Co., Inc. facility manufactures automotive paints and resins. These processes or activities generate various wastes as described in Section 3.0 of the Hazardous Waste Storage Facility Part B Closure Plan dated May 19, 1992. The facility is located in Toledo, Lucas County, Ohio and is bordered by Harris Street and Jackman Rd. to the east, Tremainsville Rd. to the south, and railroad tracks to the west and north (See Figure 1). The Facility is approximately 17 acres in size.

1.3 TANK #14 AND SECONDARY CONTAINMENT DESCRIPTION

Tank #14 was cylindrical with a cone-shaped bottom and top. It was constructed in 1981 of carbon steel which is 3/8" thick on the bottom and sides to 8 feet and 3/16" on the sides above 8 feet and on the top. The sides are 16 feet tall, and the tank is 9.5 feet in diameter. The tank was operated at atmospheric pressure, and was vented through a conservation/flame arrestor vent.

The tank had four angle-iron legs, each 2.5 feet long. The legs were mounted on concrete piers 4 feet tall. The tank was located inside its own dike with concrete walls and floor, which had a capacity of 11,950 gallons. The dike has walls of 7.5 inch thick concrete and a floor of 4.5 inch concrete. The tank sits on four concrete piers, each of which is supported by a footer roughly 4 feet square and 9 inches thick. The bottom is sloped to a 4 foot by 4 foot sump (See Figure 2). The basin is recessed below the ground surface to a depth of four feet.

Prior to closure the tank was used to store dirty wash solvent from equipment cleaning processes in the manufacturing and resin areas. The tank was used as feed for solvent recovery.

2. CLOSURE ACTIVITIES

2.1 TANK #14 AND SECONDARY CONTAINMENT DECONTAMINATION

On September 16, 1992, HR/E participated in DuPont's contractor safety program. The following sections describe the decontamination procedures followed for the closure of the tank and containment area.

2.1.1 Tank #14 Decontamination

On September 16, 1992, following safety training, HR/E personnel set up scaffolding around the tank and the tank vent was opened so that the tank product level could be observed. The product level was such that a side manway was partially obstructed.

On September 17, 1992, HR/E and DuPont personnel pumped a solvent into the tank to loosen the tank product. This was accomplished by using a two inch suction hose and a M8 diaphragm pump. The equipment was set up to empty the liquid out of Tank #14 and to mix and break up the paint sludge within. After several pumpings the product level in Tank #14 dropped below the side manhole. This activity continued on September 23, 1992 when the side manway could be accessed. After accessing the tank (without entry) from the side manhole, a solvent stream was directed towards the paint sludge to dissolve it and pump it out. This activity was completed on September 30, 1992 with the tank being emptied of product. On October 1, 1992 a water pressure washer was used to rinse the inside of the tank.

All solvents, sludge, and rinseate were recovered in 500 gallon portable totes provided by DuPont. The tank was then air vented to insure the tank had a safe atmosphere with no LEL (lower explosive limit). A total of 1,070 gallons of product/sludge was removed from the tank. Approximately 880 gallons of solvent was used.

On October 2, 1992 piping and conduits were removed from the tank and the scaffolding taken down. On September 5, 1992 a 27-ton crane from Jeffers Company was utilized to move Tank #14 to the Drum Storage Pad. Four bolts which fastened the tank to the concrete base were removed after cables had been secured onto the tank. The crane picked the tank up and placed it on a low-boy truck trailer provided by the Morrow Bulk Company. After off-loading the tank to the northwest corner of the Drum Storage Pad, railroad ties were placed to stabilize the vessel for

further cleaning.

This cleaning started on October 6, 1992. Prior to entering Tank #14 for cleaning, DuPont facility safety personnel and the HR/R site safety officer monitored the tank and posted separate confined space entry permits. HR/E personnel then began water pressure washing Tank #14 with a pencil head tip to blast the remaining thin coated paint off the tank. A drum vacuum unit was mounted on the portable totes to recover all the rinseate. On October 7, 1992, the tank was pressure washed and rinsed three times with plant tap water. Two and one half totes were used to contain the rinse water. Two valves were removed from the tank. On October 9, 1992, piping from the tank that had been removed was cut and drummed using a 4-wheel cutter. A tank entry permit was obtained on October 23, 1992 to allow a final rinse of the tank and sampling.

2.1.2 Tank #14 Secondary Containment Pit Decontamination

Decontamination of Tank #14's pit including its dike walls, floor and surrounding concrete area was started October 9, 1992. A visqueen canopy was constructed over the pit to contain the sandblast material and associated dust and paint residue. Sandblasting of the pit walls was performed on October 13 and 14, 1992. Sandblast solids were shoveled from the pit into 55-gallon drums. On October 19, 1992 HR/E repaired the visqueen canopy, damaged by high winds and rain. Water that had accumulated in the pit was removed by DuPont personnel. Sandblasting of the pit floor was performed October 21, 1992. Again sandblast solids were shoveled from the pit into 55-gallon drums. This was followed by vacuuming the area using a Tornado 250 cfm drum vacuum. The waste disposal manifest for drummed material is presented in Appendix II. On October 22, 1992, after the pit was sandblasted and vacuumed cleaned, the visqueen canopy was removed and the entire pit area was water pressure blasted with a pencil head tip. Following water blasting, the area was triple rinsed using plant tap water. All rinseate was collected into portable totes. Manifests for disposal of rinseate are included in Appendix II.

2.2 DETAILS OF SAMPLING AND ANALYSIS

2.2.1 Sampling and Analysis of Tank #14

On October 7, 1992, following the third pressure washing, a sample was taken of the fourth rinse using a single 40 mil glass vial to fill two 40 mil glass vials and one 16 oz. glass jar as appropriate for analysis. A sample was also collected of the plant tap water at from the faucet. This sample was labeled "water blank". Sampling was performed by Mr. Steve Klemm of HR/E. Samples were labeled and placed in a cooler containing ice. The samples were shipped via UPS over night to Heritage Laboratories, Inc. in Indianapolis, IN. The tank risneate sample was sent for total lead (Pb) analysis using USEPA Method SW846-6010.

Both samples, the Tank #14 Rinseate and the Water Blank showed no detectable Pb at a limit of 0.050 mg/L. Appendix I includes a copy of the certificates of analysis and the completed Chain-of-Custody form.

On October 23, 1992, following an additional rinse of the tank, a rinseate sample was taken using a single 40 mil glass vial to fill two 40 mil glass vials and one 16 oz. glass jar as appropriate for analysis. Sampling was performed by Mr. Steve Klemm of HR/E. The sample was labeled and placed in a cooler containing ice. On October 26, 1992 the samples were shipped via UPS over night to Heritage Laboratories, Inc. in Indianapolis, IN. The sample was sent for analysis as summarized in Table 1.

Table 1. Summary of Analyses and Analytical Methods

ANALYSIS	METHOD
Volatile Organic Compounds	SW846-8240
Semi-Volatile Organic Compounds	SW846-8270
Arsenic	SW846-7060
Barium	SW846-6010
Cadmium	SW846-7131
Chromium	SW846-6010
Lead	SW846-7421
Mercury	SW846-7470
Selenium	SW846-7740
Silver	SW846-6010

2.2.2 Sampling and Analysis of Secondary Containment

On October 22, 1992, following the third pressure washing, a sample was taken of the fourth rinse using a single 40 mil glass vial to fill two 40 mil glass vials and one 16 oz. glass jar as appropriate for analysis. The sample was collected at the containment area sump. A sample was also collected of the plant tap water at from the faucet. This sample was labeled "Faucet Near Pit". Sampling was performed by Mr. Steve Klemm of HR/E. Samples were labeled and placed in a cooler containing ice. The samples were shipped via UPS over night to Heritage Laboratories, Inc. in Indianapolis, IN on October 26, 1992. The samples were submitted for analyses summarized in Table 1.

2.3 SUMMARY OF ANALYTICAL RESULTS

The closure plan stipulated that the final rinseates must meet or exceed:

- Fifteen times the public drinking water MCL for hazardous waste constituents.
- If an MCL is not available for a particular contaminant, then fifteen times the MCLG.
- If a product of fifteen time the MCL or MCLG exceeds 1 mg/liter or if neither an MCL or MCLG is not available for a particular contaminant, 1 mg/liter shall be used as the clean standard.

The analytical results from tank and containment risneate are summarized in Table 2. Also included are the clean standards as determined from the approved closure plan and federal maximum contaminant levels (MCLs). In summary, both organic compounds and inorganic compounds were identified in the water from various sources, however, all detectable compounds were at levels below clean standard.

Therefore, Tank #14 is considered with in the EPA Clean Standard and may be disposed of or sold as scrap. At the time of preparation of this closure plan the tank had not been scraped or disposed.

Table 2 Analytical Data for RCRA Tank No. 14 Closure.

Constituent	MCL mg/ℓ	MCLG mg/ℓ	Clean Standard mg/ℓ	Tank Rinseate mg/ℓ	Pit Rinseate mg/ℓ	Faucet Water mg/ℓ	Blank mg/ℓ
Lab. Sample No.				A265472	A265468	A265471	A265473
Metals							
Arsenic (As)	0.050	NA	0.750	<0.005	<0.005	<0.005	<0.005
Barium (Ba)	2.000	NA	1.000	<0.010	<0.010	<0.010	<0.010
Cadmium (Cd)	0.005	0.005	0.080	0.0024	<0.001	<0.001	<0.001
Chromium (Cr)	0.010	0.01	0.150	<0.010	<0.010	<0.010	<0.010
Lead (Pb)	0.015	NA	0.230	0.0055	<0.005	<0.005	<0.005
Mercury (Hg)	0.002	0.002	0.030	<0.0002	<0.0002	<0.0002	<0.0002
Selenium (Se)	0.050	0.05	0.750	<0.005	<0.005	<0.005	<0.005
Silver (Ag)	0.050	NA	0.750	<0.010	<0.010	<0.010	<0.010
Volatile Organics							
Benzene	0.005	NA	0.080	<0.005	<0.005	<0.005	<0.005
O-dichlorobenzene	0.060	0.60	0.900	<0.010	<0.010	<0.010	<0.010
P-dichlorobenzene	0.075	NA	1.000	<0.010	<0.010	<0.010	<0.010
Ethylbenzene	0.700	0.70	1.000	<0.005	<0.005	<0.005	<0.005
Chlorobenzene	0.100	0.10	1.000	<0.005	<0.005	<0.005	<0.005
Toluene	1.000	1.00	1.000	<0.005	<0.005	<0.005	<0.005
Total Xylenes	10.000	10.00	1.000	<0.005	<0.005	<0.005	<0.005
Tetrachloroethene	0.005	0.00	0.080	<0.005	<0.005	<0.005	<0.005
1,1,1-trichloroethane	0.200	NA	1.000	<0.005	<0.005	<0.005	<0.005
1,2-dichloroethane	0.005	NA	0.080	<0.005	<0.005	<0.005	<0.005
Trichloroethene	0.005	NA	0.080	<0.005	<0.005	<0.005	<0.005
1,1-dichloroethene	0.007	NA	0.110	<0.005	<0.005	<0.005	<0.005
c-1,2-dichloroethane	0.070	0.07	1.000	<0.005	<0.005	<0.005	<0.005
t-1,2-dichloroethane	0.100	0.10	1.000	<0.005	<0.005	<0.005	<0.005
Vinyl Chloride	0.002	NA	0.030	<0.010	<0.010	<0.010	<0.010
Carbon Tetrachloride	0.005	NA	0.080	<0.005	<0.005	<0.005	<0.005
Styrene	0.100	0.10	1.000	<0.005	<0.005	<0.005	<0.005
1,2-dichloropropane	0.005	NA	0.080	<0.005	<0.005	<0.005	<0.005
Total Trihalomethanes	0.100	NA	1.000	NM	NM	NM	NM
Acetone	NA	NA	1.000	0.052	<0.020	<0.020	<0.020
Bromodichloromethane	NA	NA	1.000	<0.005	<0.005	0,005	<0.005
Chloroform	NA	NA	1.000	<0.005	<0.005	0.008	<0.005
Semi-Volatile Organics							
Di(ethylbenzyl)phthalate	0.004	NA	0.060	NM	NM	NM	NM
Methylene Chloride	0.005	NA	0.080	<0.005	<0.005	<0.005	<0.005
Hexachlorobenzene	0.001	NA	0.020	<0.010	<0.010	<0.010	<0.010
1,2,4-trichlorobenzene	0.009	NA	0.140	<0.010	<0.010	<0.010	<0.010
1,1,2-trichloroethane	0.005	NA	0.080	<0.005	<0.005	<0.005	<0.005
Benzyl Alcohol	NA	NA	1.000	<0.010	0.051	<0.010	<0.010
Bis(2-EH)Phthalate	NA	NA	1.000	<0.010	0.092	<0.010	<0.010

NA - Not Applicable, NM - Not Measured

2.4 CERTIFICATION

MANAGEMENT APPROVAL

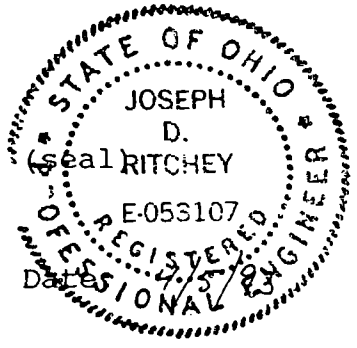
This Closure has been performed as herein described.

Signature X

Name and Title Mr. Samuel J. Bright - Toledo Plant Manager

CERTIFICATION

I hereby certify that I have examined the facility and being familiar with the provisions of 40 CFR, Part 264.115/OAC 3745-66-15, attest that this closure has been preformed in accordance with the approved closure plan.



(Seal)

Date 7/5/93

Joseph D. Ritchey, PE
Printed Name of Registered Professional Engineer

Joseph D Ritchey
Signature of Registered Professional Engineer

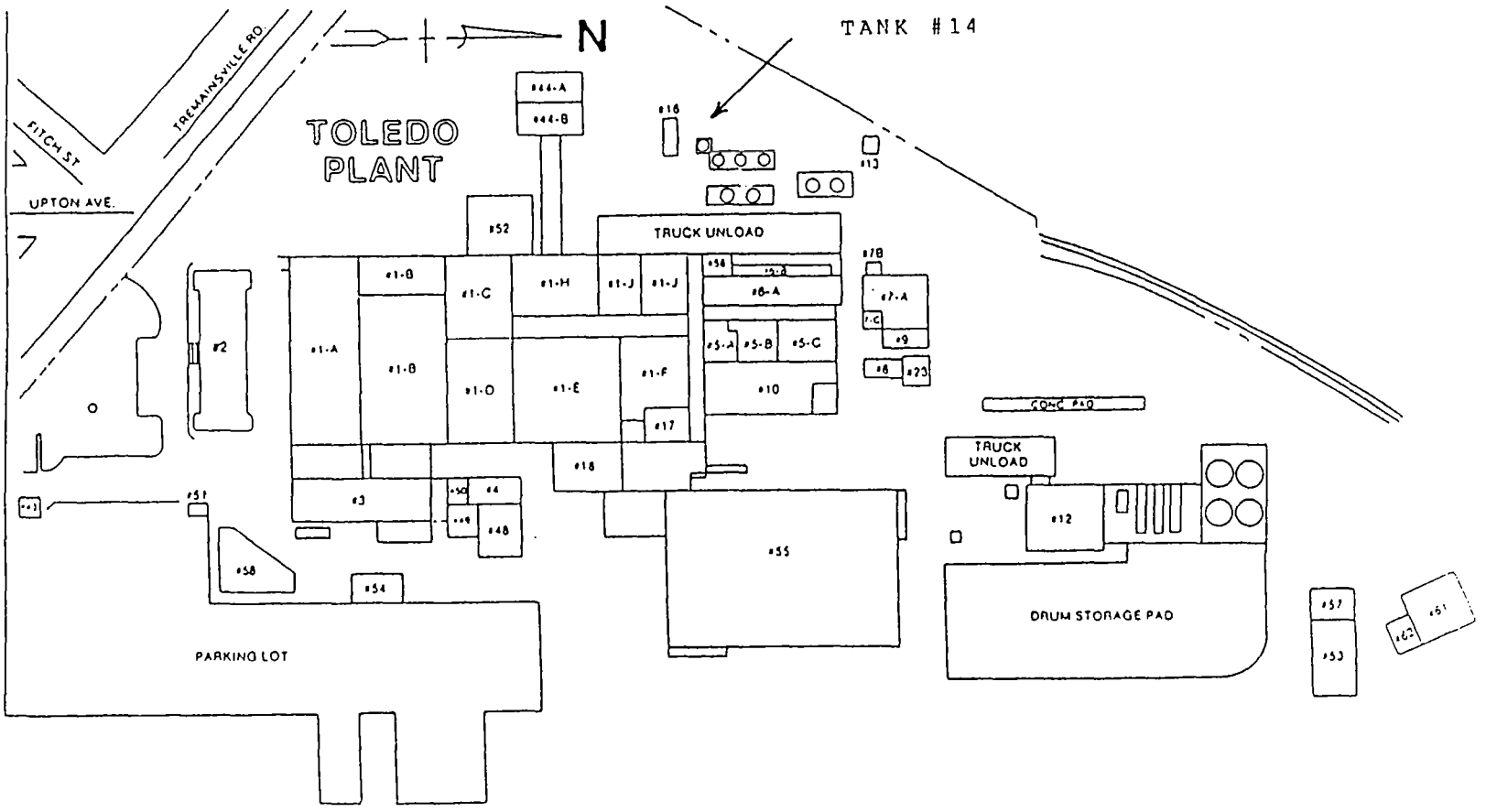
E-53107
Registration No.

Ohio
State

ATTACHMENT 1

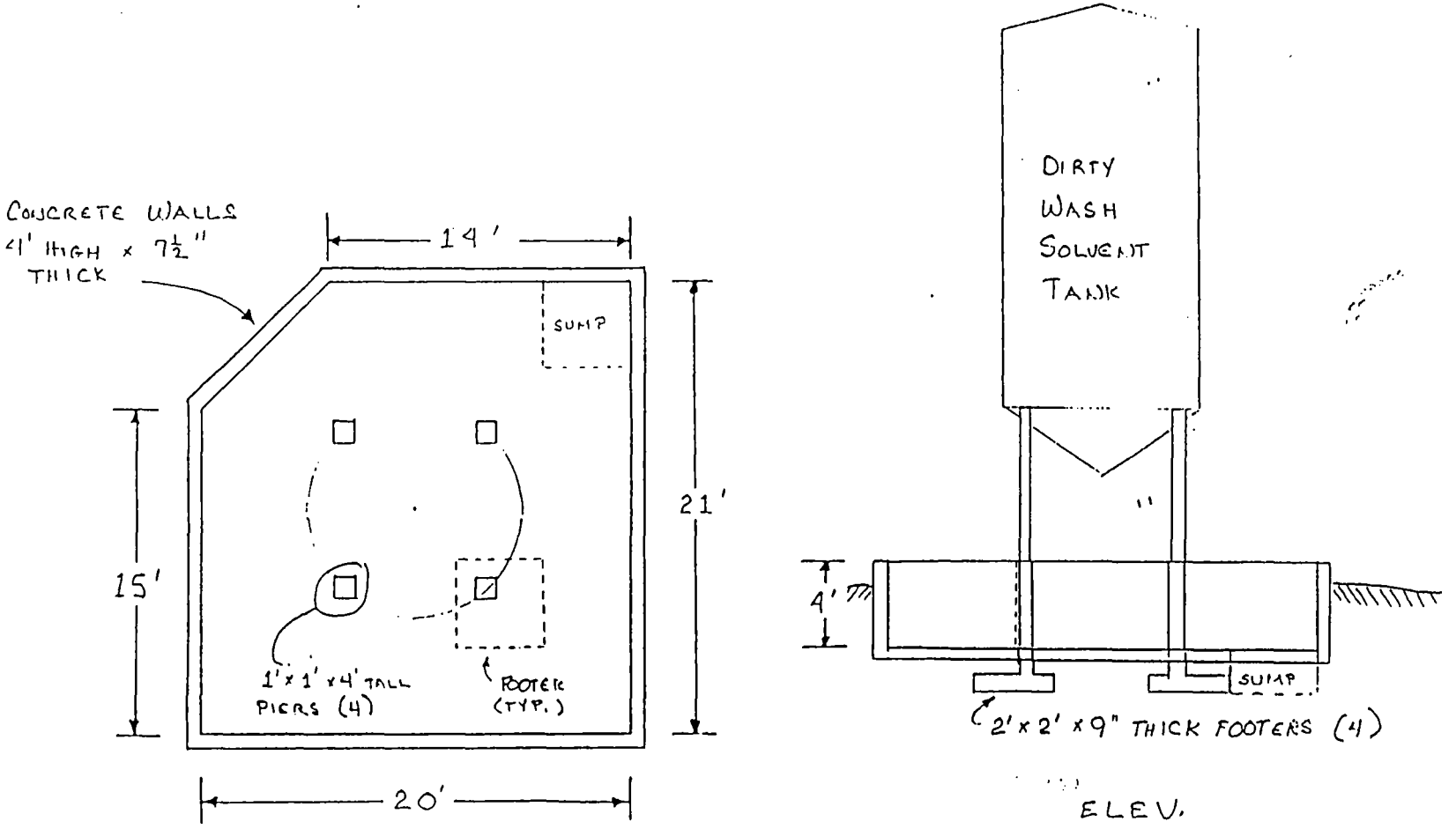
AREA MAP

1-A	ENAMELS/RECEIVING
1-B	ENAMELS/STORAGE
1-C	RECEIVING/STORAGE
1-D	ENAMELS/STORAGE
1-E	RESIN STORAGE
1-F	TANK ROOM
1-H	RESIN AREA – REAC. 4 & 5
1-J	REACTORS #1, #2 & 3
2	MAIN OFFICE
3	LAB/MECHANICAL/ENGINEERING
4	STOREROOM
5-A	STORAGE
5-B	PT REPAIR
5-C	EQUIPMENT CLEANING
6-A	DOWTH., MECH., SOLV. RECOVERY
6-B	STORAGE TANKS
7-A	POWERHOUSE
7-B	CONTROL ROOM
7-C	WELL
8	RESERVOIR – WATER
9	INERT GAS
10	P.T. CLEANING/SCRAP DOCK
11	PUMP HOUSE
12	SOLVENT STORAGE
13	GAS METER HOUSE
14	STORAGE TANKS
15	STORAGE TANK
16	M.P.A. TANK
17	STORAGE
18	DOCK/STORAGE
43	OFFICE/CREDIT UNION
44	STORAGE
48	STOREROOM/STORAGE
49	TRANSFORMERS
50	CONTROL ROOM
51	GATE HOUSE
52	TRUCK REPAIR
53	GARAGE
54	T/W LOADING SHED
55	SHIPPING WAREHOUSE
56	REACTOR #7 BUILDING
57	STORAGE SHED/ENGINEERING
58	CAFETERIA/CHANGEHOUSE
59	CONTRACTOR GATE
61	PEROXIDE STORAGE
62	AZO



ATTACHMENT 2

SKETCH OF TANK #14 AND DIKE



SCALE: 1/8" = 1 FOOT

EXISTING DIRTY WASH SOLVENT TANK DIKE

EXISTING DIRTY WASH SOLVENT TANK DIKE

11/13/27

ATTACHMENT D-29(e)-2

APPENDIX I

ANALYTICAL DATA REPORTS

CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
HERITAGE LABORATORIES, INC. 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8305	08-OCT-92		A263847
	Complete: 12-OCT-92	PO Number: 29-1725	
	Printed: 13-OCT-92	Sampled: 07-OCT-92 15:40	

Report To	Bill To
STEVE O. SMITH HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPORTUNITY DRIVE TOLEDO, OH 43612	STEVE SMITH HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPURTUNITY DRIVE TOLEDO, OH 43612

Sample Description

DESCRIPTION: TANK #14 RINSEATE

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005

Analyst: C. COFFEY Analysis Date: 09-OCT-92 Test: P130.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL WEIGHT OR VOLUME	50		mL

LEAD ICP SW846-6010

Analyst: M. JAO Analysis Date: 09-OCT-92 Instrument: ICP Test: M116.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
LEAD	BDL	0.050	mg/L

Sample Comments

SAMPLE PRESERVED AT HERITAGE UPON ARRIVAL.

BDL Below Detection Limit

Sample chain of custody number 15991.

IDEM Drinking Water Certification Number C-49-01

Quality Assurance Officer: _____

OCT 15 REC'D

CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
HERITAGE LABORATORIES, INC. 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8305	08-OCT-92		A263846
	Complete: 12-OCT-92	PO Number: 29-1725	
	Printed: 13-OCT-92	Sampled: 07-OCT-92 15:30	

Report To	Bill To
STEVE O. SMITH HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPORTUNITY DRIVE TOLEDO, OH 43612	STEVE SMITH HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPURTUNITY DRIVE TOLEDO, OH 43612

Sample Description

DESCRIPTION: WATER BLANK

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005

Analyst: C. COFFEY Analysis Date: 09-OCT-92 Test: P130.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL WEIGHT OR VOLUME	50		mL

LEAD ICP SW846-6010

Analyst: M. JAO Analysis Date: 09-OCT-92 Instrument: ICP Test: M116.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
LEAD	BDL	0.050	mg/L

Sample Comments

SAMPLE PRESERVED AT HERITAGE UPON ARRIVAL.

BDL Below Detection Limit

Sample chain of custody number 15991.

IDEM Drinking Water Certification Number C-49-01

Quality Assurance Officer: _____

[illegible] EN[illegible]E P[illegible]ER[illegible]DLIN[illegible] SA[illegible] ES [illegible] SE [illegible]PLE[illegible] HIS [illegible]IRE [illegible]M

EMS HERITAGE LABORATORIES, INC.

4132 POMPANO ROAD
CHARLOTTE, N.C. 28216 (704) 393-1853

15991

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST FORM

Co. Name: Dupont Automotive Finishes
Project Name:
Quote No.: PO No.: 1725
ENVIRONMENTAL PROGRAM:
CWA NPDES____ IWP ____ SLUDGE____
RCRA MW____ SW ____ DISPOSAL____
SDWA____CERCLA/SUPERFUND____OTHER ____
Sampled by:

Report To:
Co: HAIE
Add:
Attn: Joe [illegible] / [illegible]
Phone: 800-[illegible]-[illegible]
Accelerated Turnaround Requested ____
(Subject to Additional Charge)
Result Request by: __ / __ / __
Mo Day Yr
(Date must be Accepted and Approved by Lab.)

Analyses Requested: (Note special detection limits or methods)

Sample ID:	Date:	Time:	Comp	Grab	Sample Description:	Sample Type (Matrix): DW, GW, WW, Soil, Oil, Sludge, Other Water	No. of Containers		RCRA Metals (Acid)	RCRA Solvents 8240							Remarks:	EMS Sample No.
	7/7/92	7:??		✓	Water Blank	water	2-40ml 1-16oz		✓	✓								1263846
	7/7/92	8:40		✓	Tank #14 Concrete	water	2-40ml 1-16oz		✓	✓							John	847

John — I'll request ~~normal~~ RUSH turn now. More or different parameters will be added or changed over phone tomorrow if things change. The metals sample ~~may~~ need preservative. Thanks, Steve

Relinquished by: (Signature)	Date /Time	Received by: (Signature)	Relinquished by: (Signature)	Date /Time	Received by: (Signature)
Steven K[illegible]	7/7/92 / 1625	UPS Express		/	
	/			/	
	10/8/92 / 10:20	Received for Lab by: Patricia Majors	Remarks: Logged in for Pb 10/8/92 (PAS)		

Distribution: Yellow copy returned to client. Pink copy to be retained by client.

CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
HERITAGE LABORATORIES, INC. 901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8305	27-OCT-92	1871	A265468
	Complete	PO Number	
	20-NOV-92	29-1463	
	Printed	Sampled	
	21-NOV-92	22-OCT-92 15:18	

Report To	Bill To
JEFF STEVENS HERITAGE REMEDIATION/ENGINEERING, INC 5656 OPPORTUNITY DRIVE TOLEDO, OH 43612	STEVE SMITH HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPURTUNITY DRIVE TOLEDO, OH 43612

Sample Description

SAMPLE ID: 10221
DESCRIPTION: RINSEATE FROM PIT (TANK 14)
PROJECT: DUPONT TOLEDO, OH
HRE JOB NO.: 62026
PROJECT NAME
PROJECT NUMBER
SAMPLE DESCRIPTION

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005

Analyst: C. COFFEY Analysis Date: 03-NOV-92 Test: P130.4.0

Parameter	Result	Det. Limit	Units
IITIAL WEIGHT OR VOLUME	50		mL
FINAL WEIGHT OR VOLUME	50		mL

GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020

Analyst: S. SNYDER Analysis Date: 04-NOV-92 Test: P130.6.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL WEIGHT OR VOLUME	50		mL

MERCURY CVAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-7470

Analyst: R. BYERS Analysis Date: 06-NOV-92 Test: P131.6.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL VOLUME	100		mL

ARSENIC GFAA SW846-7060

Analyst: M. BAUER Analysis Date: 06-NOV-92 Instrument: GFAA Test: M103.2.0

Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
ARSENIC	BDL	0.0050	mg/L

BARIUM ICP SW846-6010

Analyst: A. HILSCHER Analysis Date: 03-NOV-92 Instrument: ICP Test: M104.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
ARIUM	BDL	0.010	mg/L

CADMIUM GFAA SW846-7131

Analyst: J. VANSKYOCK Analysis Date: 11-NOV-92 Instrument: GFAA Test: M108.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
CADMIUM	BDL	0.0010	mg/L

CHROMIUM ICP SW846-6010

Analyst: A. HILSCHER Analysis Date: 03-NOV-92 Instrument: ICP Test: M110.3.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
CHROMIUM	BDL	0.010	mg/L

LEAD GFAA SW846-7421

Analyst: M. BAUER Analysis Date: 09-NOV-92 Instrument: GFAA Test: M116.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
LEAD	BDL	0.0050	mg/L

MERCURY CVAA SW846-7470

Analyst: K. HACK Analysis Date: 07-NOV-92 Instrument: CVAA Test: M120.1.0
Prep: MERCURY CVAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-7470 P131.6.0

Parameter	Result	Det. Limit	Units
MERCURY	BDL	0.00020	mg/L

SELENIUM GFAA SW846-7740

Analyst: W. WATNESS Analysis Date: 06-NOV-92 Instrument: GFAA Test: M128.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
SELENIUM	BDL	0.0050	mg/L

SILVER ICP SW846-6010

Analyst: A. HILSCHER Analysis Date: 03-NOV-92 Instrument: ICP Test: M130.3.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
SILVER	BDL	0.010	mg/L

VOLATILE ORGANICS SW846-8240

Analyst: T. WIEGAND Analysis Date: 03-NOV-92 Instrument: GC/MS VOA Test: 0510.3.0

Parameter	Result	Det. Limit	Units
ACETONE	BDL	20	ug/L
ACROLEIN	BDL	50	ug/L
ACRYLONITRILE	BDL	70	ug/L
BENZENE	BDL	5	ug/L
BROMODICHLOROMETHANE	BDL	5	ug/L
BROMOFORM	BDL	5	ug/L
BROMOMETHANE	BDL	10	ug/L
CARBON DISULFIDE	BDL	5	ug/L
CARBON TETRACHLORIDE	BDL	5	ug/L
CHLOROBENZENE	BDL	5	ug/L
CHLOROETHANE	BDL	10	ug/L
CHLOROFORM	BDL	5	ug/L
CHLOROMETHANE	BDL	10	ug/L
DIBROMOCHLOROMETHANE	BDL	5	ug/L
CIS-1,3-DICHLOROPROPENE	BDL	5	ug/L
DICHLORODIFLUOROMETHANE	BDL	5	ug/L
1,1-DICHLOROETHANE	BDL	5	ug/L
1,2-DICHLOROETHANE	BDL	5	ug/L
1,1-DICHLOROETHENE	BDL	5	ug/L

Parameter	Result	Det. Limit	Units
1,2-DICHLOROPROPANE	BDL	5	ug/L
ETHYLBENZENE	BDL	5	ug/L
LUOROTRICHLOROMETHANE	BDL	5	ug/L
-HEXANONE	BDL	10	ug/L
METHYLENE CHLORIDE	BDL	5	ug/L
METHYL ETHYL KETONE	BDL	10	ug/L
4-METHYL-2-PENTANONE	BDL	10	ug/L
STYRENE	BDL	5	ug/L
1,1,2,2-TETRACHLOROETHANE	BDL	5	ug/L
TETRACHLOROETHENE	BDL	5	ug/L
TETRAHYDROFURAN	BDL	25	ug/L
TOLUENE	BDL	5	ug/L
1,2-DICHLOROETHENE (TOTAL)	BDL	5	ug/L
TRANS-1,3-DICHLOROPROPENE	BDL	5	ug/L
1,1,1-TRICHLOROETHANE	BDL	5	ug/L
1,1,2-TRICHLOROETHANE	BDL	5	ug/L
TRICHLOROETHENE	BDL	5	ug/L
VINYL ACETATE	BDL	10	ug/L
VINYL CHLORIDE	BDL	10	ug/L
XYLENE (TOTAL)	BDL	5	ug/L
...			
SURROGATE RECOVERY			

DICHLOROETHANE-D4	101		% Rec
TOLUENE-D8	110		% Rec
BROMOFLUOROBENZENE	107		% Rec

C/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510

Analyst: N. ROHADFOX Analysis Date: 28-OCT-92 Test: P233.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	1000		mL
FINAL VOLUME	1.0		mL

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL/ACID FRACTIONS) SW846-8270

Analyst: G. BARRETT Analysis Date: 30-OCT-92 Instrument: GC/MS SVOA Test: 0505.3.0

Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510 P233.4.0

Parameter	Result	Det. Limit	Units
ACENAPHTHENE	BDL	10	ug/L
ACENAPHTHYLENE	BDL	10	ug/L
ANTHRACENE	BDL	10	ug/L
BENZ(A)ANTHRACENE	BDL	10	ug/L
BENZO(A)PYRENE	BDL	10	ug/L
BENZO(B)FLUORANTHENE	BDL	10	ug/L
BENZO(G,H,I)PERYLENE	BDL	10	ug/L
BENZO(K)FLUORANTHENE	BDL	10	ug/L
BENZYL ALCOHOL	51	10	ug/L
BENZYLBUTYLPHTHALATE	BDL	10	ug/L
BIS(2-CHLOROETHOXY)METHANE	BDL	10	ug/L
BIS(2-CHLOROETHYL)ETHER	BDL	10	ug/L
BIS(2-CHLOROISOPROPYL)ETHER	BDL	10	ug/L
BIS(2-ETHYLHEXYL)PHTHALATE	92	10	ug/L
4-BROMOPHENYLPHENYLETHER	BDL	10	ug/L
CARBAZOLE	BDL	10	ug/L
-CHLOROANILINE	BDL	10	ug/L
-CHLORONAPHTHALENE	BDL	10	ug/L
4-CHLOROPHENYLPHENYLETHER	BDL	10	ug/L
CHRYSENE	BDL	10	ug/L

Parameter	Result	Det. Limit	Units
DIBENZ(A,H)ANTHRACENE	BDL	10	ug/L
IBENZOFURAN	BDL	10	ug/L
2-DICHLOROBENZENE	BDL	10	ug/L
,3-DICHLOROBENZENE	BDL	10	ug/L
1,4-DICHLOROBENZENE	BDL	10	ug/L
3,3'-DICHLOROBENZIDINE	BDL	20	ug/L
DIETHYLPHTHALATE	BDL	10	ug/L
DIMETHYLPHTHALATE	BDL	10	ug/L
DI-N-BUTYLPHTHALATE	BDL	10	ug/L
DINITROBENZENES	BDL	50	ug/L
2,4-DINITROTOLUENE	BDL	10	ug/L
2,6-DINITROTOLUENE	BDL	10	ug/L
DI-N-OCTYLPHTHALATE	BDL	10	ug/L
FLUORANTHENE	BDL	10	ug/L
FLUORENE	BDL	10	ug/L
HEXACHLOROBENZENE	BDL	10	ug/L
HEXACHLOROBUTADIENE	BDL	10	ug/L
HEXACHLOROCYCLOPENTADIENE	BDL	10	ug/L
HEXACHLOROETHANE	BDL	10	ug/L
INDENO(1,2,3-CD)PYRENE	BDL	10	ug/L
ISOPHORONE	BDL	10	ug/L
2-METHYLNAPHTHALENE	BDL	10	ug/L
NAPHTHALENE	BDL	10	ug/L
2-NITROANILINE	BDL	50	ug/L
3-NITROANILINE	BDL	50	ug/L
4-NITROANILINE	BDL	50	ug/L
NITROBENZENE	BDL	10	ug/L
-NITROSO-DIPHENYLAMINE	BDL	10	ug/L
-NITROSO-DI-N-PROPYLAMINE	BDL	10	ug/L
PHENANTHRENE	BDL	10	ug/L
2-PICOLINE	BDL	50	ug/L
PYRENE	BDL	10	ug/L
PYRIDINE	BDL	50	ug/L
TETRACHLOROBENZENES	BDL	10	ug/L
TOLUENEDIAMINE	BDL	50	ug/L
1,2,4-TRICHLOROBENZENE	BDL	10	ug/L
BENZOIC ACID	BDL	50	ug/L
4-CHLORO-3-METHYLPHENOL	BDL	10	ug/L
2-CHLOROPHENOL	BDL	10	ug/L
2,4-DICHLOROPHENOL	BDL	10	ug/L
2,4-DIMETHYLPHENOL	BDL	10	ug/L
4,6-DINITRO-2-METHYLPHENOL	BDL	50	ug/L
2,4-DINITROPHENOL	BDL	50	ug/L
2-METHYLPHENOL	BDL	10	ug/L
4-METHYLPHENOL	BDL	10	ug/L
2-NITROPHENOL	BDL	10	ug/L
4-NITROPHENOL	BDL	50	ug/L
PENTACHLOROPHENOL	BDL	50	ug/L
PHENOL	BDL	10	ug/L
TETRACHLOROPHENOL	BDL	10	ug/L
2,4,5-TRICHLOROPHENOL	BDL	50	ug/L
2,4,6-TRICHLOROPHENOL	BDL	10	ug/L
URROGATE RECOVERY			
2-FLUOROPHENOL	26		% Rec
PHENOL-D5	16		% Rec

Parameter	Result	Det. Limit	Units
NITROBENZENE-D5	78		% Rec
2-FLUOROBIPHENYL	89		% Rec
4,6-TRIBROMOPHENOL	25		% Rec
..RPHENYL-D14	89		% Rec

Sample Comments

BDL Below Detection Limit

Sample chain of custody number 15990.

IDEM Drinking Water Certification Number C-49-01
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Additional copies of this report sent to:
JOE RITCHIE, HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPORTUNITY DRIVE, TOLEDO, OH 43612

Quality Assurance Officer: H.A. Busch

CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
HERITAGE LABORATORIES, INC. 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8305	27-OCT-92	1871	A265471
	Complete	PO Number	
	12-NOV-92	29-1463	
	Printed	Sampled	
	13-NOV-92	22-OCT-92 15:50	

Report To	Bill To
JEFF STEVENS HERITAGE REMEDIATION/ENGINEERING, INC 5656 OPPORTUNITY DRIVE TOLEDO, OH 43612	STEVE SMITH HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPURTUNITY DRIVE TOLEDO, OH 43612

Sample Description

SAMPLE ID: 10222
DESCRIPTION: FAUCET NEAR PIT
PROJECT: DUPONT TOLEDO, OH
HRE JOB NO.: 62026
PROJECT NAME
PROJECT NUMBER
SAMPLE DESCRIPTION

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005

Analyst: C. COFFEY Analysis Date: 04-NOV-92 Test: P130.4.0

Parameter	Result	Det. Limit	Units
NITIAL WEIGHT OR VOLUME	50		mL
FINAL WEIGHT OR VOLUME	50		mL

GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020

Analyst: S. SNYDER Analysis Date: 04-NOV-92 Test: P130.6.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL WEIGHT OR VOLUME	50		mL

MERCURY CVAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-7470

Analyst: R. BYERS Analysis Date: 06-NOV-92 Test: P131.6.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL VOLUME	100		mL

ARSENIC GFAA SW846-7060

Analyst: M. BAUER Analysis Date: 06-NOV-92 Instrument: GFAA Test: M103.2.0

Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
ARSENIC	BDL	0.0050	mg/L

BARIUM ICP SW846-6010

Analyst: M. JAO Analysis Date: 05-NOV-92 Instrument: ICP Test: M104.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
ARIUM	BDL	0.010	mg/L

CADMIUM GFAA SW846-7131
Analyst: J. VANSKYOCK Analysis Date: 11-NOV-92 Instrument: GFAA Test: M108.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
CADMIUM	BDL	0.0010	mg/L

CHROMIUM ICP SW846-6010
Analyst: M. JAO Analysis Date: 05-NOV-92 Instrument: ICP Test: M110.3.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
CHROMIUM	BDL	0.010	mg/L

LEAD GFAA SW846-7421
Analyst: M. BAUER Analysis Date: 09-NOV-92 Instrument: GFAA Test: M116.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
LEAD	BDL	0.0050	mg/L

MERCURY CVAA SW846-7470
Analyst: K. HACK Analysis Date: 07-NOV-92 Instrument: CVAA Test: M120.1.0
Prep: MERCURY CVAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-7470 P131.6.0

Parameter	Result	Det. Limit	Units
MERCURY	BDL	0.00020	mg/L

SELENIUM GFAA SW846-7740
Analyst: W. WATNESS Analysis Date: 06-NOV-92 Instrument: GFAA Test: M128.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
SELENIUM	BDL	0.0050	mg/L

SILVER ICP SW846-6010
Analyst: M. JAO Analysis Date: 05-NOV-92 Instrument: ICP Test: M130.3.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
SILVER	BDL	0.010	mg/L

VOLATILE ORGANICS SW846-8240
Analyst: T. WIEGAND Analysis Date: 03-NOV-92 Instrument: GC/MS VOA Test: 0510.3.0

Parameter	Result	Det. Limit	Units
ACETONE	BDL	20	ug/L
ACROLEIN	BDL	50	ug/L
ACRYLONITRILE	BDL	70	ug/L
BENZENE	BDL	5	ug/L
BROMODICHLOROMETHANE	EST 5	5	ug/L
BROMOFORM	BDL	5	ug/L
BROMOMETHANE	BDL	10	ug/L
CARBON DISULFIDE	BDL	5	ug/L
CARBON TETRACHLORIDE	BDL	5	ug/L
CHLOROBENZENE	BDL	5	ug/L
CHLOROETHANE	BDL	10	ug/L
CHLOROFORM	8	5	ug/L
CHLOROMETHANE	BDL	10	ug/L
DIBROMOCHLOROMETHANE	BDL	5	ug/L
CIS-1,3-DICHLOROPROPENE	BDL	5	ug/L
DICHLORODIFLUOROMETHANE	BDL	5	ug/L
1,1-DICHLOROETHANE	BDL	5	ug/L
1,2-DICHLOROETHANE	BDL	5	ug/L
1,1-DICHLOROETHENE	BDL	5	ug/L

Parameter	Result	Det. Limit	Units
1,2-DICHLOROPROPANE	BDL	5	ug/L
ETHYLBENZENE	BDL	5	ug/L
UOROTRICHLOROMETHANE	BDL	5	ug/L
-HEXANONE	BDL	10	ug/L
METHYLENE CHLORIDE	BDL	5	ug/L
METHYL ETHYL KETONE	BDL	10	ug/L
4-METHYL-2-PENTANONE	BDL	10	ug/L
STYRENE	BDL	5	ug/L
1,1,2,2-TETRACHLOROETHANE	BDL	5	ug/L
TETRACHLOROETHENE	BDL	5	ug/L
TETRAHYDROFURAN	BDL	25	ug/L
TOLUENE	BDL	5	ug/L
1,2-DICHLOROETHENE (TOTAL)	BDL	5	ug/L
TRANS-1,3-DICHLOROPROPENE	BDL	5	ug/L
1,1,1-TRICHLOROETHANE	BDL	5	ug/L
1,1,2-TRICHLOROETHANE	BDL	5	ug/L
TRICHLOROETHENE	BDL	5	ug/L
VINYL ACETATE	BDL	10	ug/L
VINYL CHLORIDE	BDL	10	ug/L
XYLENE (TOTAL)	BDL	5	ug/L
...			
SURROGATE RECOVERY			

DICHLOROETHANE-D4	103		% Rec
TOLUENE-D8	110		% Rec
BROMOFLUOROBENZENE	108		% Rec

C/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510

nalyst: N. ROHADFOX Analysis Date: 28-OCT-92 Test: P233.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	1000		mL
FINAL VOLUME	1.0		mL

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL/ACID FRACTIONS) SW846-8270

Analyst: G. BARRETT Analysis Date: 02-NOV-92 Instrument: GC/MS SVOA Test: 0505.3.0

Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510 P233.4.0

Parameter	Result	Det. Limit	Units
ACENAPHTHENE	BDL	10	ug/L
ACENAPHTHYLENE	BDL	10	ug/L
ANTHRACENE	BDL	10	ug/L
BENZ(A)ANTHRACENE	BDL	10	ug/L
BENZO(A)PYRENE	BDL	10	ug/L
BENZO(B)FLUORANTHENE	BDL	10	ug/L
BENZO(G,H,I)PERYLENE	BDL	10	ug/L
BENZO(K)FLUORANTHENE	BDL	10	ug/L
BENZYL ALCOHOL	BDL	10	ug/L
BENZYLBUTYLPHTHALATE	BDL	10	ug/L
BIS(2-CHLOROETHOXY)METHANE	BDL	10	ug/L
BIS(2-CHLOROETHYL)ETHER	BDL	10	ug/L
BIS(2-CHLOROISOPROPYL)ETHER	BDL	10	ug/L
BIS(2-ETHYLHEXYL)PHTHALATE	BDL	10	ug/L
4-BROMOPHENYLPHENYLETHER	BDL	10	ug/L
CARBAZOLE	BDL	10	ug/L
-CHLOROANILINE	BDL	10	ug/L
-CHLORONAPHTHALENE	BDL	10	ug/L
4-CHLOROPHENYLPHENYLETHER	BDL	10	ug/L
CHRYSENE	BDL	10	ug/L

Parameter	Result	Det. Limit	Units
DIBENZ(A,H)ANTHRACENE	BDL	10	ug/L
DIBENZOFURAN	BDL	10	ug/L
,2-DICHLOROBENZENE	BDL	10	ug/L
1,3-DICHLOROBENZENE	BDL	10	ug/L
1,4-DICHLOROBENZENE	BDL	10	ug/L
3,3'-DICHLOROBENZIDINE	BDL	20	ug/L
DIETHYLPHTHALATE	BDL	10	ug/L
DIMETHYLPHTHALATE	BDL	10	ug/L
DI-N-BUTYLPHTHALATE	BDL	10	ug/L
DINITROBENZENES	BDL	50	ug/L
2,4-DINITROTOLUENE	BDL	10	ug/L
2,6-DINITROTOLUENE	BDL	10	ug/L
DI-N-OCTYLPHTHALATE	BDL	10	ug/L
FLUORANTHENE	BDL	10	ug/L
FLUORENE	BDL	10	ug/L
HEXACHLOROBENZENE	BDL	10	ug/L
HEXACHLOROBUTADIENE	BDL	10	ug/L
HEXACHLOROCYCLOPENTADIENE	BDL	10	ug/L
HEXACHLOROETHANE	BDL	10	ug/L
INDENO(1,2,3-CD)PYRENE	BDL	10	ug/L
ISOPHORONE	BDL	10	ug/L
2-METHYLNAPHTHALENE	BDL	10	ug/L
NAPHTHALENE	BDL	10	ug/L
2-NITROANILINE	BDL	50	ug/L
3-NITROANILINE	BDL	50	ug/L
4-NITROANILINE	BDL	50	ug/L
NITROBENZENE	BDL	10	ug/L
N-NITROSO-DIPHENYLAMINE	BDL	10	ug/L
-NITROSO-DI-N-PROPYLAMINE	BDL	10	ug/L
PHENANTHRENE	BDL	10	ug/L
2-PICOLINE	BDL	50	ug/L
PYRENE	BDL	10	ug/L
PYRIDINE	BDL	50	ug/L
TETRACHLOROBENZENES	BDL	10	ug/L
TOLUENEDIAMINE	BDL	50	ug/L
1,2,4-TRICHLOROBENZENE	BDL	10	ug/L
BENZOIC ACID	BDL	50	ug/L
4-CHLORO-3-METHYLPHENOL	BDL	10	ug/L
2-CHLOROPHENOL	BDL	10	ug/L
2,4-DICHLOROPHENOL	BDL	10	ug/L
2,4-DIMETHYLPHENOL	BDL	10	ug/L
4,6-DINITRO-2-METHYLPHENOL	BDL	50	ug/L
2,4-DINITROPHENOL	BDL	50	ug/L
2-METHYLPHENOL	BDL	10	ug/L
4-METHYLPHENOL	BDL	10	ug/L
2-NITROPHENOL	BDL	10	ug/L
4-NITROPHENOL	BDL	50	ug/L
PENTACHLOROPHENOL	BDL	50	ug/L
PHENOL	BDL	10	ug/L
TETRACHLOROPHENOL	BDL	10	ug/L
2,4,5-TRICHLOROPHENOL	BDL	50	ug/L
2,4,6-TRICHLOROPHENOL	BDL	10	ug/L
SURROGATE RECOVERY			
2-FLUOROPHENOL	49		% Rec
PHENOL-D5	33		% Rec

Parameter	Result	Det. Limit	Units
NITROBENZENE-D5	105		% Rec
2-FLUOROBIPHENYL	89		% Rec
,4,6-TRIBROMOPHENOL	70		% Rec
ERPHENYL-D14	98		% Rec

Sample Comments

BDL Below Detection Limit
EST Estimated Value

Sample chain of custody number 15990.

IDEM Drinking Water Certification Number C-49-01
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Additional copies of this report sent to:
JOE RITCHIE, HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPORTUNITY DRIVE, TOLEDO, OH 43612

Quality Assurance Officer: _____

CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
HERITAGE LABORATORIES, INC. '901 W: MORRIS ST. _NDIANAPOLIS, IN 46231 (317)243-8305	27-OCT-92	1871	A265472
	Complete	PO Number	
	12-NOV-92	29-1463	
	Printed	Sampled	
	13-NOV-92	23-OCT-92 10:15	

Report To	Bill To
JEFF STEVENS HERITAGE REMEDIATION/ENGINEERING, INC 5656 OPPORTUNITY DRIVE TOLEDO, OH 43612	STEVE SMITH HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPURTUNITY DRIVE TOLEDO, OH 43612

Sample Description

SAMPLE ID: 10233
DESCRIPTION: TANK 14 RINSEATE
PROJECT: DUPONT TOLEDO, OH
HRE JOB NO.: 62026
PROJECT NAME
PROJECT NUMBER
SAMPLE DESCRIPTION

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005

Analyst: C. COFFEY Analysis Date: 04-NOV-92 Test: P130.4.0

Parameter	Result	Det. Limit	Units
IITIAL WEIGHT OR VOLUME	50		mL
FINAL WEIGHT OR VOLUME	50		mL

GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020

Analyst: S. SNYDER Analysis Date: 04-NOV-92 Test: P130.6.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL WEIGHT OR VOLUME	50		mL

MERCURY CVAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-7470

Analyst: R. BYERS Analysis Date: 06-NOV-92 Test: P131.6.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL VOLUME	100		mL

ARSENIC GFAA SW846-7060

Analyst: M. BAUER Analysis Date: 06-NOV-92 Instrument: GFAA Test: M103.2.0

Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
ARSENIC	BDL	0.0050	mg/L

BARIUM ICP SW846-6010

Analyst: M. JAO Analysis Date: 05-NOV-92 Instrument: ICP Test: M104.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
ARIUM	BDL	0.010	mg/L

CADMIUM GFAA SW846-7131

Analyst: J. VANSKYOCK Analysis Date: 11-NOV-92 Instrument: GFAA Test: M108.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
CADMIUM	0.0024	0.0020	mg/L
1:2 DILUTION			

CHROMIUM ICP SW846-6010

Analyst: M. JAO Analysis Date: 05-NOV-92 Instrument: ICP Test: M110.3.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
CHROMIUM	BDL	0.010	mg/L

LEAD GFAA SW846-7421

Analyst: M. BAUER Analysis Date: 09-NOV-92 Instrument: GFAA Test: M116.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
LEAD	0.0055	0.0050	mg/L

MERCURY CVAA SW846-7470

Analyst: K. HACK Analysis Date: 07-NOV-92 Instrument: CVAA Test: M120.1.0
Prep: MERCURY CVAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-7470 P131.6.0

Parameter	Result	Det. Limit	Units
MERCURY	BDL	0.00020	mg/L

SELENIUM GFAA SW846-7740

Analyst: W. WATNESS Analysis Date: 06-NOV-92 Instrument: GFAA Test: M128.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
SELENIUM	BDL	0.0050	mg/L

SILVER ICP SW846-6010

Analyst: M. JAO Analysis Date: 05-NOV-92 Instrument: ICP Test: M130.3.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
SILVER	BDL	0.010	mg/L

VOLATILE ORGANICS SW846-8240

Analyst: T. WIEGAND Analysis Date: 03-NOV-92 Instrument: GC/MS VOA Test: 0510.3.0

Parameter	Result	Det. Limit	Units
ACETONE	52	20	ug/L
ACROLEIN	BDL	50	ug/L
ACRYLONITRILE	BDL	70	ug/L
BENZENE	BDL	5	ug/L
BROMODICHLOROMETHANE	BDL	5	ug/L
BROMOFORM	BDL	5	ug/L
BROMOMETHANE	BDL	10	ug/L
CARBON DISULFIDE	BDL	5	ug/L
CARBON TETRACHLORIDE	BDL	5	ug/L
CHLOROBENZENE	BDL	5	ug/L
CHLOROETHANE	BDL	10	ug/L
CHLOROFORM	BDL	5	ug/L
CHLOROMETHANE	BDL	10	ug/L
IBROMOCHLOROMETHANE	BDL	5	ug/L
IS-1,3-DICHLOROPROPENE	BDL	5	ug/L
DICHLORODIFLUOROMETHANE	BDL	5	ug/L
1,1-DICHLOROETHANE	BDL	5	ug/L

HERITAGE LABORATORIES, INC. Lab Sample ID: A265472

Parameter	Result	Det. Limit	Units
1,2-DICHLOROETHANE	BDL	5	ug/L
',1-DICHLOROETHENE	BDL	5	ug/L
'2-DICHLOROPROPANE	BDL	5	ug/L
ETHYLBENZENE	BDL	5	ug/L
FLUOROTRICHLOROMETHANE	BDL	5	ug/L
2-HEXANONE	BDL	10	ug/L
METHYLENE CHLORIDE	BDL	5	ug/L
METHYL ETHYL KETONE	BDL	10	ug/L
4-METHYL-2-PENTANONE	BDL	10	ug/L
STYRENE	BDL	5	ug/L
1,1,2,2-TETRACHLOROETHANE	BDL	5	ug/L
TETRACHLOROETHENE	BDL	5	ug/L
TETRAHYDROFURAN	BDL	25	ug/L
TOLUENE	BDL	5	ug/L
1,2-DICHLOROETHENE (TOTAL)	BDL	5	ug/L
TRANS-1,3-DICHLOROPROPENE	BDL	5	ug/L
1,1,1-TRICHLOROETHANE	BDL	5	ug/L
1,1,2-TRICHLOROETHANE	BDL	5	ug/L
TRICHLOROETHENE	BDL	5	ug/L
VINYL ACETATE	BDL	10	ug/L
VINYL CHLORIDE	BDL	10	ug/L
XYLENE (TOTAL)	BDL	5	ug/L
...			
SURROGATE RECOVERY			

DICHLOROETHANE-D4	106		% Rec
TOLUENE-D8	110		% Rec
ROMOFLUOROBENZENE	106		% Rec

AMPLE PH = 7

GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510

Analyst: N. ROHADFOX Analysis Date: 28-OCT-92 Test: P233.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	1000		mL
FINAL VOLUME	1.0		mL

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL/ACID FRACTIONS) SW846-8270

Analyst: G. BARRETT Analysis Date: 02-NOV-92 Instrument: GC/MS SVOA Test: 0505.3.0

Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510 P233.4.0

Parameter	Result	Det. Limit	Units
ACENAPHTHENE	BDL	10	ug/L
ACENAPHTHYLENE	BDL	10	ug/L
ANTHRACENE	BDL	10	ug/L
BENZ(A)ANTHRACENE	BDL	10	ug/L
BENZO(A)PYRENE	BDL	10	ug/L
BENZO(B)FLUORANTHENE	BDL	10	ug/L
BENZO(G,H,I)PERYLENE	BDL	10	ug/L
BENZO(K)FLUORANTHENE	BDL	10	ug/L
BENZYL ALCOHOL	BDL	10	ug/L
BENZYLBUTYLPHTHALATE	BDL	10	ug/L
BIS(2-CHLOROETHOXY)METHANE	BDL	10	ug/L
BIS(2-CHLOROETHYL)ETHER	BDL	10	ug/L
IS(2-CHLOROISOPROPYL)ETHER	BDL	10	ug/L
IS(2-ETHYLHEXYL)PHTHALATE	BDL	10	ug/L
4-BROMOPHENYLPHENYLETHER	BDL	10	ug/L
CARBAZOLE	BDL	10	ug/L

HERITAGE LABORATORIES, INC. Lab Sample ID: A265472

Parameter	Result	Det. Limit	Units
4-CHLOROANILINE	BDL	10	ug/L
2-CHLORONAPHTHALENE	BDL	10	ug/L
-CHLOROPHENYLPHENYLETHER	BDL	10	ug/L
CHRYSENE	BDL	10	ug/L
DIBENZ(A,H)ANTHRACENE	BDL	10	ug/L
DIBENZOFURAN	BDL	10	ug/L
1,2-DICHLOROBENZENE	BDL	10	ug/L
1,3-DICHLOROBENZENE	BDL	10	ug/L
1,4-DICHLOROBENZENE	BDL	10	ug/L
3,3'-DICHLOROBENZIDINE	BDL	20	ug/L
DIETHYLPHTHALATE	BDL	10	ug/L
DIMETHYLPHTHALATE	BDL	10	ug/L
DI-N-BUTYLPHTHALATE	BDL	10	ug/L
DINITROBENZENES	BDL	50	ug/L
2,4-DINITROTOLUENE	BDL	10	ug/L
2,6-DINITROTOLUENE	BDL	10	ug/L
DI-N-OCTYLPHTHALATE	BDL	10	ug/L
FLUORANTHENE	BDL	10	ug/L
FLUORENE	BDL	10	ug/L
HEXACHLOROBENZENE	BDL	10	ug/L
HEXACHLOROBUTADIENE	BDL	10	ug/L
HEXACHLOROCYCLOPENTADIENE	BDL	10	ug/L
HEXACHLOROETHANE	BDL	10	ug/L
INDENO(1,2,3-CD)PYRENE	BDL	10	ug/L
ISOPHORONE	BDL	10	ug/L
2-METHYLNAPHTHALENE	BDL	10	ug/L
NAPHTHALENE	BDL	10	ug/L
-NITROANILINE	BDL	50	ug/L
-NITROANILINE	BDL	50	ug/L
4-NITROANILINE	BDL	50	ug/L
NITROBENZENE	BDL	10	ug/L
N-NITROSO-DIPHENYLAMINE	BDL	10	ug/L
N-NITROSO-DI-N-PROPYLAMINE	BDL	10	ug/L
PHENANTHRENE	BDL	10	ug/L
2-PICOLINE	BDL	50	ug/L
PYRENE	BDL	10	ug/L
PYRIDINE	BDL	50	ug/L
TETRACHLOROBENZENES	BDL	10	ug/L
TOLUENEDIAMINE	BDL	50	ug/L
1,2,4-TRICHLOROBENZENE	BDL	10	ug/L
BENZOIC ACID	BDL	50	ug/L
4-CHLORO-3-METHYLPHENOL	BDL	10	ug/L
2-CHLOROPHENOL	BDL	10	ug/L
2,4-DICHLOROPHENOL	BDL	10	ug/L
2,4-DIMETHYLPHENOL	BDL	10	ug/L
4,6-DINITRO-2-METHYLPHENOL	BDL	50	ug/L
2,4-DINITROPHENOL	BDL	50	ug/L
2-METHYLPHENOL	BDL	10	ug/L
4-METHYLPHENOL	BDL	10	ug/L
2-NITROPHENOL	BDL	10	ug/L
4-NITROPHENOL	BDL	50	ug/L
PENTACHLOROPHENOL	BDL	50	ug/L
PHENOL	BDL	10	ug/L
TETRACHLOROPHENOL	BDL	10	ug/L
2,4,5-TRICHLOROPHENOL	BDL	50	ug/L
2,4,6-TRICHLOROPHENOL	BDL	10	ug/L

Parameter	Result	Det. Limit	Units
SURROGATE RECOVERY			
FLUOROPHENOL	30		% Rec
HENOL-D5	34		% Rec
NITROBENZENE-D5	98		% Rec
2-FLUOROBIPHENYL	82		% Rec
2,4,6-TRIBROMOPHENOL	33		% Rec
TERPHENYL-D14	88		% Rec

Sample Comments

BDL Below Detection Limit

Sample chain of custody number 15990.

IDEM Drinking Water Certification Number C-49-01
This Certificate shall not be reproduced, except in full,
without the written approval of the lab.

Additional copies of this report sent to:
JOE RITCHIE, HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPORTUNITY DRIVE, TOLEDO, OH 43612

Quality Assurance Officer: _____

CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
HERITAGE LABORATORIES, INC. 901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8305	27-OCT-92	1871	A265473
	Complete	PO Number	
	04-NOV-92	29-1463	
	Printed	Sampled	
	06-NOV-92	22-OCT-92	

Report To	Bill To
JEFF STEVENS HERITAGE REMEDIATION/ENGINEERING, INC 5656 OPPORTUNITY DRIVE TOLEDO, OH 43612	STEVE SMITH HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPURTUNITY DRIVE TOLEDO, OH 43612

Sample Description

SAMPLE ID: 10225
DESCRIPTION: TRIP BLANK
PROJECT: DUPONT TOLEDO, OH
HRE JOB NO.: 62026
PROJECT NAME
PROJECT NUMBER
SAMPLE DESCRIPTION

VOLATILE ORGANICS SW846-8240

Analyst: T. WIEGAND Analysis Date: 03-NOV-92 Instrument: GC/MS VOA Test: 0510.3.0

Parameter	Result	Det. Limit	Units
ETONE	BDL	20	ug/L
ACROLEIN	BDL	50	ug/L
ACRYLONITRILE	BDL	70	ug/L
BENZENE	BDL	5	ug/L
BROMODICHLOROMETHANE	BDL	5	ug/L
BROMOFORM	BDL	5	ug/L
BROMOMETHANE	BDL	10	ug/L
CARBON DISULFIDE	BDL	5	ug/L
CARBON TETRACHLORIDE	BDL	5	ug/L
CHLOROBENZENE	BDL	5	ug/L
CHLOROETHANE	BDL	10	ug/L
CHLOROFORM	BDL	5	ug/L
CHLOROMETHANE	BDL	10	ug/L
DIBROMOCHLOROMETHANE	BDL	5	ug/L
CIS-1,3-DICHLOROPROPENE	BDL	5	ug/L
DICHLORODIFLUOROMETHANE	BDL	5	ug/L
1,1-DICHLOROETHANE	BDL	5	ug/L
1,2-DICHLOROETHANE	BDL	5	ug/L
1,1-DICHLOROETHENE	BDL	5	ug/L
1,2-DICHLOROPROPANE	BDL	5	ug/L
ETHYLBENZENE	BDL	5	ug/L
FLUOROTRICHLOROMETHANE	BDL	5	ug/L
2-HEXANONE	BDL	10	ug/L
METHYLENE CHLORIDE	BDL	5	ug/L
METHYL ETHYL KETONE	BDL	10	ug/L
-METHYL-2-PENTANONE	BDL	10	ug/L
YRENE	BDL	5	ug/L
1,1,2,2-TETRACHLOROETHANE	BDL	5	ug/L
TETRACHLOROETHENE	BDL	5	ug/L

NOV RECD

Parameter	Result	Det. Limit	Units
TETRAHYDROFURAN	BDL	25	ug/L
TOLUENE	BDL	5	ug/L
2-DICHLOROETHENE (TOTAL)	BDL	5	ug/L
TRANS-1,3-DICHLOROPROPENE	BDL	5	ug/L
1,1,1-TRICHLOROETHANE	BDL	5	ug/L
1,1,2-TRICHLOROETHANE	BDL	5	ug/L
TRICHLOROETHENE	BDL	5	ug/L
VINYL ACETATE	BDL	10	ug/L
VINYL CHLORIDE	BDL	10	ug/L
XYLENE (TOTAL)	BDL	5	ug/L
...			
SURROGATE RECOVERY			

DICHLOROETHANE-D4	106		% Rec
TOLUENE-D8	109		% Rec
BROMOFLUOROBENZENE	107		% Rec

Sample Comments

BDL Below Detection Limit

Sample chain of custody number 15990.

IDEM Drinking Water Certification Number C-49-01
This Certificate shall not be reproduced, except in full, without the written approval of the lab.

Additional copies of this report sent to:
E RITCHIE, HERITAGE REMEDIATION/ENGINEERING, INC.
56 OPPORTUNITY DRIVE, TOLEDO, OH 43612

Quality Assurance Officer: _____

EMS HERITAGE LABORATORIES, INC.
4132 POMPANO ROAD
CHARLOTTE, N.C. 28216 (704) 393-1853

15990

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST FORM

Co. Name: Dupont Automotive Finishes (JOB # 62026)
Project Name: RCRA Tank Closure
Quote No.: PO No.: 29-1463

ENVIRONMENTAL PROGRAM:
CWA ___ NPDES ___ IWP ___ SLUDGE ___
RCRA ___ MW ___ SW ___ DISPOSAL ___
SDWA ___ CERCLA/SUPERFUND ___ OTHER ___

Sampled by: SK, SM

Report To:
Co:
Add:
Attn: Joe Kitchey
Phone: 800-377-9886

Accelerated Turnaround Requested ___ (Subject to Additional Charge)

Result Request by: / / (Mo Day Yr)
(Date must be Accepted and Approved by Lab.)

Analyses Requested: (Note special detection limits or methods)

Sample ID	Date	Time	Comp	Grab	Sample Description	Sample Type (Matrix) DW, GW, WW, Soil, Oil, Sludge, Other	No. of Containers	Voc SW846-8240	Semi Voc SW846-8270	Metals SW846-6010 except Hg (ICP/FAA w Det. lim. of .05 or less)		SW846-7470 (CVAA) Hg					Remarks	EMS Sample No.
10221	10/26/92	PM		X	Rinseate From Pit (Tankcity)	W	5	X	X	X		X		A265	468		Quote Reference # Z111892	A265415
10222	10/26/92	AM		X	Faucet Near Pit	W	5	X	X	X		X		471	469			416
10233	10/26/92	AM		X	Tank M Rinseate	W	5	X	X	X		X		472	470		2 week turn	417
10225	10/26/92			X	Trip Blank From Indy	W	3	X						473	471			418

Note: Samples need to be extracted expeditiously to beat hold times.

Please call if you have any questions. Thanks
Steve

Relinquished by: (Signature)	Date /Time	Received by: (Signature)	Relinquished by: (Signature)	Date /Time	Received by: (Signature)
Steven Klemm	10/26/92 1630	UPS Express		/	
Relinquished by: (Signature)	Date /Time	Received by: (Signature)	Relinquished by: (Signature)	Date /Time	Received by: (Signature)
	/			/	
Relinquished by: (Signature)	Date /Time	Received for Lab by: (Signature)	Remarks: pH level is ok PRM 10/27/92		
	10/27/92 10:42	Patricia R Majors			

Distribution: Yellow copy returned to client. Pink copy to be retained by client.

APPENDIX II

WASTE MANIFESTS

Public reporting burden for this collection of information is estimated to average 37 minutes for generators, 15 minutes for transporters and 10 minutes for treatment, storage and disposal facilities. This includes time for reviewing instructions, gathering data, and completing and reviewing the form. Send comments regarding the burden estimate, including suggestions for reducing this burden to: Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street SW., Washington DC 20460, and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington DC 20503

SID NUMBER MUST BE SHOWN ON ALL FREIGHT BILLS AND CORRESPONDENCE

Shipment Identification Number: 92193 HWM

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No. 2050-0039 Expires 9-30-92

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: OHD005041843
Manifest Document No.: 92193
2. Page 1 of 1
Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
E.I. DuPont de Nemours & Co., Inc.
1930 Tremainsville Rd.
Toledo, Ohio 43613

4. Generator's Phone (419) 478-1211

A. State Manifest Document Number
B. State Generator's ID

5. Transporter 1 Company Name: Metropolitan Environmental, Inc.
6. US EPA ID Number: INT190010397
C. State Transporter's ID
D. Transporter's Phone 419-586-6638

7. Transporter 2 Company Name
8. US EPA ID Number
E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
LaFarge/Systech Corp.
11397 County Rd. 176
Pauling, Ohio 45879

10. US EPA ID Number: OHD005048947
G. State Facility's ID
H. Facility's Phone: 419-399-4835

	HM	11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a.	RQ	RQ Waste Flammable Liquid n.o.s. (Xylene, Methyl Ethyl Ketone) UN 1993 (D001, D005, D007, D008)	001	TT	~~5500~~ 38560	~~G~~ P	D001, D005 D007, D008
b.							
c.							
d.							

J. Additional Descriptions for Materials Listed Above
D035, F003, F005

K. Handling Codes for Wastes Listed Above
AA-12996
wot-12

15. Special Handling Instructions and Additional Information
ERG #27
24-hour 419-478-1211

(Rail, Cargo Tank, Portable Tank, Freight Container)
X Placarded Flammable (Name of Placard)
(Truck – 1,000 lbs. or More) Placards Provided

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method available to me and which I can afford.

Printed/Typed Name: Denise Trabbic-Clement
Signature: Denise Trabbic-Clement
Date: Month Day Year ~~10 16 92~~ 10-26-92

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Troy Rodenberger
Signature: T. Rodenberger
Date: 10 26 92

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Date: Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name
Signature
Date: Month Day Year

EPA Form 8700-22 (3-87)　　DuPont Form TD-10620 Rev. 10/91

Department of Pollution Control and Ecology
P. O. Box 8913 Little Rock, Arkansas 72219-8913
Telephone 501-562-7444

1

Please print or type: (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039. Expires 9-30-92

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. OHD005041843 Manifest Document No. 92210 | 2. Page 1 of 1 | Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
E.I. Du Pont De Nemours & Co. Attn: DeniseTrabbic-Clement
1930 Tremainsville Road Toledo , OH 43613
4. Generator's Phone (419-478-1211

A. State Manifest Document Number AR-581275 1
B. State Generator's ID

5. Transporter 1 Company Name: Morrow Bulk Commodities Inc. | 6. US EPA ID Number: OHD980702102
C. State Transporter's ID PC 11885 H 664
D. Transporter's Phone 419-836-6187

7. Transporter 2 Company Name | 8. US EPA ID Number
E. State Transporter's ID PC ____ H ___
F. Transporter's Phone

9. Designated Facility Name and Site Address
Rineco
1007 Vulcan Rd. - Haskell
Benton, AR. 72015
10. US EPA ID Number: ARD981057870
G. State Facility's ID
H. Facility's Phone 501/778-9089

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. Waste Flammable Liquid, N.O.S. (Toluene / N-Butyl Alcohol) 3 UN1993 PGIII RQ (D007, D008)	1	DM	20540	P G	D001,D005,D007,D008 D035,F003,F005
b. Hazardous Waste Solid, n.o.s. ORM-E NA 9189	4	C F	2010	P	D001, D005 D007, D008 D035, F003 F005
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. 9209-4463 ERG#27 (Paint & Paint Contaminated)
b. 9210-5925 ERG#31 (Wrangler)

K. Handling Codes for Wastes Listed Above
EMERGENCY RESPONSE INFORMATION:
DeniseTrabbic-Clement /Chemtrec
419-478-1211 800-424-9300

if no alternate TSDF, return to generator

15. Special Handling Instructions and Additional Information
Placcard Flammable

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and Arkansas state regulations.
If I am a large quantity generator, I certify that I have a program in place to reduce the volumn and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name	Signature	Month	Day	Year
Denise Trabbic-Clement	Denise Trabbic-Clement	11	23	92

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
John E Pointer	John E Pointer	11	23	92

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year
RAY L. REAGAN	Ray L Reagan	11	24	92

EPA Form 8700-22 (Rev. 9-88) Previous edition is obsolete.

NOTICE: THE ORIGINAL AND NOT LESS THAN TWO (2) COPIES MUST MOVE WITH THE HAZARDOUS WASTE SHIPMENT. ONCE DELIVERED, THE TREATMENT, STORAGE, DISPOSAL FACILITY MUST RETURN THIS ORIGINAL COPY TO THE GENERATOR.

IN CASE OF EMERGENCY
SPILL, LEAK, FIRE EXPOSURE OR ACCIDENT
CALL CHEMTREC - DAY OR NIGHT
800-424-9300 (TOLL FREE)
WASHINGTON, D.C. 483-7616
OUTSIDE CONTINENTAL U.S.A. (202) 483-7616

SID NUMBER MUST BE SHOWN ON ALL FREIGHT BILLS AND CORRESPONDENCE

Shipment Identification Number: SID-SID-SID-SID-SID-SID-SID-SID-SID-SID-SID-SID-S 9 2 2 0 1 HWM D-SID-SID-SID-SID-SID-SID-SID-SID-SID-SID-SID-SID-SI D

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No. 2050-0039 Expires 9-30-92

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: O H D 0 0 5 0 4 1 8 4 3 — Manifest Document No.: 9 2 2 0 1

2. Page 1 of 1

Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
E.I. DuPont de Nemours & Co., Inc.
1930 Tremainsville Rd.
Toledo, Ohio 43613
4. Generator's Phone (419) 478-1211

A. State Manifest Document Number

B. State Generator's ID

5. Transporter 1 Company Name: Metropolitan Environmental Inc.
6. US EPA ID Number: I N T 1 9 0 0 1 0 3 9 7
C. State Transporter's ID
D. Transporter's Phone: 419-586-6638

7. Transporter 2 Company Name
8. US EPA ID Number
E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
LaFarge/Systech Corp.
11397 County Rd. 176
Paulding, Ohio 45879
10. US EPA ID Number: O H D 0 0 5 0 4 8 9 4 7
G. State Facility's ID
H. Facility's Phone: 419-399-4835

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. HM RQ RQ Waste Flammable Liquid, n.o.s. (Xylene, Methyl Ethyl Ketone) UN 1993 (D001, D005, D007, D008)	0 0 1	T T	5200 40880	G P	D001, D005 D007, D008
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
D035, F003, F005

K. Handling Codes for Wastes Listed Above
AA-12996
WOT-12

15. Special Handling Instructions and Additional Information
ERG #27
24-hour (419) 478-1211

(Rail, Cargo Tank, Portable Tank, Freight Container)
X Placarded Flammable (Name of Placard)
(Truck – 1,000 lbs. or More)
Placards Provided

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment OR if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method available to me and which I can afford.

GENERATOR — Printed/Typed Name: Denise Trabbic-Clement — Signature: Denise Trabbic-Clement — Date: Month 1 1 Day 0 4 Year 9 2

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials — Printed/Typed Name: TROY RODENBERGER — Signature: T Rodenberger — Date: Month 10 Day 04 Year 92

18. Transporter 2 Acknowledgement of Receipt of Materials — Printed/Typed Name — Signature — Date: Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. — Printed/Typed Name — Signature — Date: Month Day Year

CC: GEC

HERITAGE REMEDIATION/ENGINEERING, INC.

5656 Opportunity Drive
Toledo, OH 43612
Phone: 419/478-4396
FAX: 419/478-4560

Fuel Oil Tank
Near Peterson Bldg

November 11, 1992

Ms. Denise Trabbic-Clement
DuPont Automotive Products
1930 Tremainsville Road
Toledo, OH 43613

Re: Tank Closure Assessment Report
1930 Tremainsville Road
Toledo, OH 43613
HR/E Job No. 62027

Dear Ms. Trabbic-Clement:

On behalf of DuPont Automotive Products (DUPONT), Heritage Remediation/Engineering, Inc. (HR/E) is pleased to submit this report as referenced above. The work consisted of excavating soil from an underground storage tank (UST) excavation, documentation of site activities, environmental assessment of the UST excavation pit, and written documentation of work procedures.

This report contains all the aforementioned activities including laboratory analyses.

We trust this report is responsive to your needs. If you have any questions or concerns about this report, please feel free to contact us at your convenience at 1-800-377-9886.

Respectfully,
Heritage Remediation/Engineering, Inc.

Jeffery A. Stevens
Senior Project Manager

Attachments

UNDERGROUND STORAGE TANK
TANK CLOSURE REPORT
1930 Tremainsville
Toledo, Ohio 43613

PREPARED FOR:

DUPONT COMPANY
1930 Tremainsville Rd.
Toledo, Ohio 43613

PREPARED BY:

HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPORTUNITY DRIVE
TOLEDO, OHIO 43612

NOVEMBER 11, 1992

TABLE OF CONTENTS

1.0 INTRODUCTION

DuPont Automotive Products (DUPONT) contracted Heritage Remediation/Engineering, Inc. (HR/E) to excavate and remove soil from an open, former underground storage tank (UST) excavation, and procure soil samples. The soil was excavated by HR/E personnel on October 8, 1992.

HR/E performed a sampling program to ascertain if the soil surrounding the tank pit excavation was affected by petroleum hydrocarbons. The closure activities were conducted as outlined in 40 CFR, Parts 280 and 281, Underground Storage Tanks; Technical Requirements and State Program Approval; Final Rules, and in accordance with the Division of State Fire Marshal, Bureau of Underground Storage Tank Regulations (BUSTR) sampling and closure protocols. Analytical methods utilized during confirmatory testing were selected based on those compounds and clean-up objectives as established by the regulatory agency.

The following sections describe the work procedures performed on this closure project with respect to the soil excavation and disposal, and the environmental assessment of the tank pit.

2.0 WORK PERFORMED

Mr. Scott Mills, Certified Tank Installer with HR/E, was present on site to oversee the soil excavation, field screening of soils, and collecting samples for laboratory analyses. The soil was excavated and temporarily stockpiled on visqueen and covered.

Screening of the soils from the side walls was based on visual and olfactory inspection. There were no obvious indications of contamination. The sample locations were selected and samples obtained. Samples from each location were then placed into eight ounce glass jars with latex sample gloves over the hands, which were changed between sampling.

Soil samples were put into a cooler and kept at approximately 4 degrees C. Samples were transported to Heritage Laboratories, Inc., Indianapolis, Indiana, following completion of sample collection under chain of custody protocols. Copies of the laboratory analytical results are included with this report as Appendix B. Soil samples were analyzed for the presence of total petroleum hydrocarbons (TPH) utilizing SW846 Method 9071/418.1.

Appendix B also contains the analytical results for a sample of the excavated soil. This soil was accepted for disposal at the BFI Vienna Junction Landfill, 6233 Hagman Road, Toledo, OH. The following Table 1 summarizes the soil sample analyses.

TABLE 1
TANK CAVITY
SOIL ANALYTICAL RESULTS
(mg/kg, ppm)

PARAMETER	WEST WALL	BOTTOM	EAST WALL	REGULATORY STANDARD[1]
TPH	33	37	26	904

[1] Regulatory Standard - Ohio Administrative Code 1301:7-9-13

Concentrations for soil in the Tank Cavity are below the risk based clean levels of petroleum contaminated soils for TPH.

3.0 CONCLUSIONS

According to the Ohio Administrative Code Rule 1301:7-9-13 the risk based clean level of petroleum contaminated soils for TPH is 904 ppm. The levels in the tank cavity are below the risk based clean levels of petroleum contaminated soils for TPH.

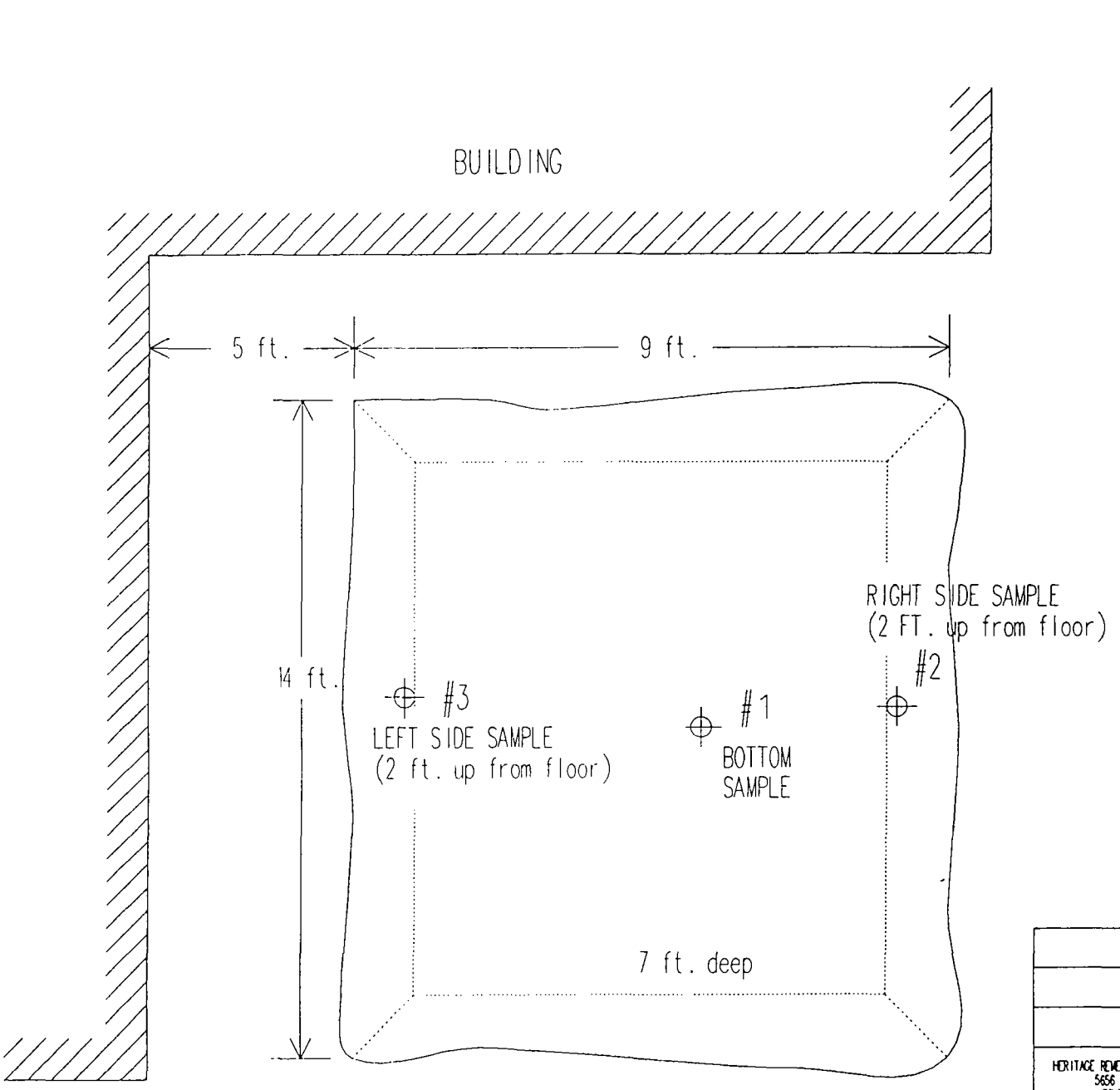
4.0 RECOMMENDATIONS

HR/E recommends no further action.

5.0 CORRECTIVE ACTIONS

Not applicable.

APPENDIX A



SOIL SAMPLE LOCATIONS		
DUPONT FACILITY		
TOLEDO, OHIO		
HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPORTUNITY DRIVE TOLEDO, OHIO 43612		HERITAGE
REVISION:	DATE: 11/16/92	DRAWN BY: KDW
SCALE: NTS	DWG NO. 62027	APPROVED BY:

APPENDIX B

CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
HERITAGE LABORATORIES, INC. 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8305	09-OCT-92	1871	A264000
	Complete: 14-OCT-92	PO Number: JEFF STEVENS	
	Printed: 15-OCT-92	Sampled: 08-OCT-92	

Report To	Bill To
JOE RITCHIE HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPORTUNITY DRIVE TOLEDO, OH 43612	STEVE SMITH HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPURTUNITY DRIVE TOLEDO, OH 43612

Sample Description

SAMPLE DESCRIPTION: TANK EXCAVATION - LEFT SIDE
PROJECT NAME: DUPONT AUTOMOTIVE FINISHES
PROJECT NUMBER

SOXHLET EXTRACTION FOR OIL AND GREASE SW846-9071

Analyst: S. STRUEWING Analysis Date: 13-OCT-92 Test: P235.9.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	60.16		Grams
FINAL VOLUME	250		mL

TOTAL PETROLEUM HYDROCARBONS BY IR (MODIFIED EXTRACTION) EPA 418.1 (MOD)

Analyst: L. OSBORN Analysis Date: 13-OCT-92 Instrument: IR Test: G518.9.0

Prep: SOXHLET EXTRACTION FOR OIL AND GREASE SW846-9071 P235.9.0

Parameter	Result	Det. Limit	Units
PETROLEUM HYDROCARBONS	33	10	mg/kg

Sample Comments

Sample chain of custody number 15989.844.

IDEM Drinking Water Certification Number C-49-01

Additional copies of this report sent to:
JEFF STEVENS, HERITAGE REMEDIATION/ENGINEERING, INC
5656 OPPORTUNITY DRIVE, TOLEDO, OH 43612

Quality Assurance Officer: _____

CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
HERITAGE LABORATORIES, INC. 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8305	09-OCT-92	1871	A264001
	Complete	PO Number	
	14-OCT-92	JEFF STEVENS	
	Printed	Sampled	
	15-OCT-92	08-OCT-92	

Report To	Bill To
JOE RITCHIE HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPORTUNITY DRIVE TOLEDO, OH 43612	STEVE SMITH HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPURTUNITY DRIVE TOLEDO, OH 43612

Sample Description

SAMPLE DESCRIPTION: TANK EXCAVATION - RIGHT SIDE
PROJECT NAME: DUPONT AUTOMOTIVE FINISHES
PROJECT NUMBER

SOXHLET EXTRACTION FOR OIL AND GREASE SW846-9071

Analyst: S. STRUEWING Analysis Date: 13-OCT-92 Test: P235.9.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	60.03		Grams
FINAL VOLUME	250		mL

TOTAL PETROLEUM HYDROCARBONS BY IR (MODIFIED EXTRACTION) EPA 418.1 (MOD)

Analyst: L. OSBORN Analysis Date: 13-OCT-92 Instrument: IR Test: G518.9.0

Prep: SOXHLET EXTRACTION FOR OIL AND GREASE SW846-9071 P235.9.0

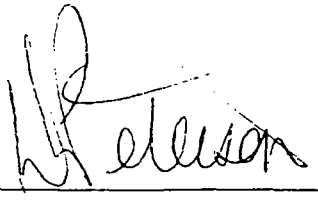
Parameter	Result	Det. Limit	Units
PETROLEUM HYDROCARBONS	26	10	mg/kg

Sample Comments

Sample chain of custody number 15989.844.

IDEM Drinking Water Certification Number C-49-01

Additional copies of this report sent to:
JEFF STEVENS, HERITAGE REMEDIATION/ENGINEERING, INC
5656 OPPORTUNITY DRIVE, TOLEDO, OH 43612

Quality Assurance Officer: 

CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
HERITAGE LABORATORIES, INC. 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8305	09-OCT-92	1871	A263999
	Complete: 14-OCT-92	PO Number: JEFF STEVENS	
	Printed: 15-OCT-92	Sampled: 08-OCT-92	

Report To	Bill To
JOE RITCHIE HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPORTUNITY DRIVE TOLEDO, OH 43612	STEVE SMITH HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPURTUNITY DRIVE TOLEDO, OH 43612

Sample Description

SAMPLE DESCRIPTION: TANK EXCAVATION - BOTTOM
PROJECT NAME: DUPONT AUTOMOTIVE FINISHES
PROJECT NUMBER

SOXHLET EXTRACTION FOR OIL AND GREASE SW846-9071

Analyst: S. STRUEWING Analysis Date: 13-OCT-92 Test: P235.9.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	60.02		Grams
FINAL VOLUME	250		mL

TOTAL PETROLEUM HYDROCARBONS BY IR (MODIFIED EXTRACTION) EPA 418.1 (MOD)

Analyst: L. OSBORN Analysis Date: 13-OCT-92 Instrument: IR Test: G518.9.0

Prep: SOXHLET EXTRACTION FOR OIL AND GREASE SW846-9071 P235.9.0

Parameter	Result	Det. Limit	Units
PETROLEUM HYDROCARBONS	37	10	mg/kg

Sample Comments

Sample chain of custody number 15989.844.

IDEM Drinking Water Certification Number C-49-01

Additional copies of this report sent to:
JEFF STEVENS, HERITAGE REMEDIATION/ENGINEERING, INC
5656 OPPORTUNITY DRIVE, TOLEDO, OH 43612

Quality Assurance Officer: _____

CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
HERITAGE LABORATORIES, INC. 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8305	17-SEP-92		A262231
	Complete	PO Number	
	06-OCT-92	62027	
	Printed	Sampled	
	07-OCT-92	16-SEP-92	

Report To	Bill To
JEFF STEVENS HERITAGE REMEDIATION/ENGINEERING, INC 5656 OPPORTUNITY DRIVE TOLEDO, OH 43612	STEVE SMITH HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPURTUNITY DRIVE TOLEDO, OH 43612

Sample Description

SAMPLE ID: 001
SAMPLE DESCRIPTION: SOIL PILE

TOTAL SOLIDS EPA 160.3

Analyst: J. STOAKES Analysis Date: 21-SEP-92 Test: G401.7.0

Parameter	Result	Det. Limit	Units
SOLIDS	85	0.001	Percent

PAINT FILTER TEST SW846-9095

Analyst: J. WALLACE Analysis Date: 22-SEP-92 Test: G103.1.0

Parameter	Result	Det. Limit	Units
PAINT FILTER LIQUID	0		mL

IGNITABILITY (SOLIDS ASSESSMENT-EXPOSURE TO SPARK) ASTM D-4982B

Analyst: J. WILDER Analysis Date: 21-SEP-92 Test: G515.5.0

Parameter	Result	Det. Limit	Units
IGNITABILITY	NEG		
AMBIENT TEMPERATURE	71		Degrees F

CYANIDE, TOTAL AVAILABLE (AUTOMATED) SW 7.3.3.2

Analyst: M. GAUGHAN Analysis Date: 25-SEP-92 Instrument: AUTO-ANALYZER Test: G115.3.0

Parameter	Result	Det. Limit	Units
CYANIDE	BDL	0.1	mg/kg

TOTAL AVAILABLE SULFIDE EXTRACTION SW 7.3.4.1

Analyst: K. BLAHUT Analysis Date: 22-SEP-92 Test: P116.2.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	10		Grams
FINAL VOLUME	100		mL

SULFIDE SW846-9030

Analyst: K. BLAHUT Analysis Date: 22-SEP-92 Test: G110.4.0

Prep: TOTAL AVAILABLE SULFIDE EXTRACTION SW 7.3.4.1 P116.2.0

Parameter	Result	Det. Limit	Units
SULFIDE	BDL	10	mg/kg

OCT 9 1992

PH S/S/S SW846-9045

Analyst: A. HILSCHER Analysis Date: 18-SEP-92 Test: G624.0.0

Parameter	Result	Det. Limit	Units
	7.8	0.1	Std. Units

PURGE AND TRAP METHOD FOR ORGANIC ANALYTES SW846-5030

Analyst: P. SPENCE Analysis Date: 28-SEP-92 Test: P239.1.0

PURGEABLE AROMATICS BY GC/PID SW846-8020

Analyst: P. SPENCE Analysis Date: 28-SEP-92 Instrument: GC/PID ELCD Test: 0460.2.0

Prep: PURGE AND TRAP METHOD FOR ORGANIC ANALYTES SW846-5030 P239.1.0

Parameter	Result	Det. Limit	Units
BENZENE	BDL	5	ug/kg
TOLUENE	BDL	5	ug/kg
ETHYL BENZENE	BDL	5	ug/kg
M/P-XYLENE	BDL	5	ug/kg
O-XYLENE	BDL	5	ug/kg

SOXHLET EXTRACTION FOR OIL AND GREASE SW846-9071

Analyst: S. STRUEWING Analysis Date: 22-SEP-92 Test: P235.9.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	60.01		Grams
FINAL VOLUME	250		mL

TOTAL PETROLEUM HYDROCARBONS BY IR (MODIFIED EXTRACTION) EPA 418.1 (MOD)

Analyst: S. STRUEWING Analysis Date: 23-SEP-92 Instrument: IR Test: G518.9.0

Prep: SOXHLET EXTRACTION FOR OIL AND GREASE SW846-9071 P235.9.0

Parameter	Result	Det. Limit	Units
ETROLEUM HYDROCARBONS	31	10	mg/kg

TOX CHAR LEACHING PROCEDURE (TCLP METALS ONLY) SW846-1311

Analyst: B. HAHN Analysis Date: 27-SEP-92 Test: P106.1.0

Parameter	Result	Det. Limit	Units
TOTAL SAMPLE WEIGHT	100		Grams
LIQUID FRACTION (GRAMS)	0		Grams
EXTRACTED SAMPLE	100		Grams
SOLIDS	100		Percent
9.5 MM SIEVE TEST			Passed
INITIAL PH	8.27		Std. Units
ADJUSTED PH	1.81		Std. Units
BUFFER SOLUTION PH	4.95		Std. Units
FINAL PH	6.31		Std. Units
VOLUME BUFFERED SOLUTION	2000		mL
VOLUME EXTRACT FILTERED	2000		mL
VOLUME LIQUID (ADD BACK)	0		mL
TOTAL VOLUME FILTRATE	2000		mL
AMBIENT TEMPERATURE	21		Degrees C
INITIAL TIME	2348.7		HRS
FINAL TIME	2364.9		HRS

FAA OR ICP ACID DIGESTION OF LEACHATE SAMPLES SW846-3010

Analyst: G. MAPP Analysis Date: 29-SEP-92 Test: P130.8.0

Prep: TOX CHAR LEACHING PROCEDURE (TCLP METALS ONLY) SW846-1311 P106.1.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL WEIGHT OR VOLUME	100		mL

TCLP BARIUM FAA (1 POINT MSA) SW846-7080

Analyst: A. STOCKBURGER Analysis Date: 01-OCT-92 Instrument: FAA Test: M704.5.0
Prep: FAA OR ICP ACID DIGESTION OF LEACHATE SAMPLES SW846-3010 P130.8.0
Prep: TOX CHAR LEACHING PROCEDURE (TCLP METALS ONLY) SW846-1311 P106.1.0

Parameter	Corrected Result	Observed Result	Detection Limit	Units	Matrix Spike True Value	Sample + Spike	Matrix Spike % Recovery
BARIUM		BDL	2.0	mg/L			
ADDITION 1		2.50		mg/L			
SAMPLE		0.04		Conc			
SAMPLE + ADD 1		2.65		Conc			
DILUTION		10					

TCLP SPIKE DILUTED OUT

TCLP CADMIUM FAA (1 POINT MSA) SW846-7130

Analyst: A. STOCKBURGER Analysis Date: 30-SEP-92 Instrument: FAA Test: M708.5.0
Prep: FAA OR ICP ACID DIGESTION OF LEACHATE SAMPLES SW846-3010 P130.8.0
Prep: TOX CHAR LEACHING PROCEDURE (TCLP METALS ONLY) SW846-1311 P106.1.0

Parameter	Corrected Result	Observed Result	Detection Limit	Units	Matrix Spike True Value	Sample + Spike	Matrix Spike % Recovery
CADMIUM	BDL	BDL	0.02	mg/L	0.200	0.172	86
ADDITION 1		0.500		mg/L			
SAMPLE		0.004		Conc			
SAMPLE + ADD 1		0.437		Conc			
DILUTION		1					

TCLP CHROMIUM FAA (1 POINT MSA) SW846-7190

Analyst: A. STOCKBURGER Analysis Date: 01-OCT-92 Instrument: FAA Test: M710.5.0
Prep: FAA OR ICP ACID DIGESTION OF LEACHATE SAMPLES SW846-3010 P130.8.0
Prep: TOX CHAR LEACHING PROCEDURE (TCLP METALS ONLY) SW846-1311 P106.1.0

Parameter	Corrected Result	Observed Result	Detection Limit	Units	Matrix Spike True Value	Sample + Spike	Matrix Spike % Recovery
CHROMIUM	BDL	BDL	0.05	mg/L	0.400	0.390	98
ADDITION 1		1.00		mg/L			
SAMPLE		0.007		Conc			
SAMPLE + ADD 1		1.021		Conc			
DILUTION		1					

TCLP LEAD FAA (1 POINT MSA) SW846-7420

Analyst: A. STOCKBURGER Analysis Date: 30-SEP-92 Instrument: FAA Test: M716.5.0
Prep: FAA OR ICP ACID DIGESTION OF LEACHATE SAMPLES SW846-3010 P130.8.0
Prep: TOX CHAR LEACHING PROCEDURE (TCLP METALS ONLY) SW846-1311 P106.1.0

Parameter	Corrected Result	Observed Result	Detection Limit	Units	Matrix Spike True Value	Sample + Spike	Matrix Spike % Recovery
LEAD	BDL	BDL	0.20	mg/L	2.00	1.76	88
ADDITION 1		5.00		mg/L			
SAMPLE		-0.02		Conc			
SAMPLE + ADD 1		4.39		Conc			
DILUTION		1					

TCLP SILVER FAA (1 POINT MSA) SW846-7760

Analyst: A. STOCKBURGER Analysis Date: 30-SEP-92 Instrument: FAA Test: M730.5.0
Prep: FAA OR ICP ACID DIGESTION OF LEACHATE SAMPLES SW846-3010 P130.8.0
Prep: TOX CHAR LEACHING PROCEDURE (TCLP METALS ONLY) SW846-1311 P106.1.0

Parameter	Corrected Result	Observed Result	Detection Limit	Units	Matrix Spike True Value	Sample + Spike	Matrix Spike % Recovery
SILVER	BDL	BDL	0.04	mg/L	0.200	0.195	97.5

Parameter	Corrected Result	Observed Result	Detection Limit	Units	Matrix Spike True Value	Sample + Spike	Matrix Spike % Recovery
)DITION 1		0.500		mg/L			
AMPLE		-0.001		Conc			
SAMPLE + ADD 1		0.484		Conc			
DILUTION		1					

GFAA ACID DIGESTION OF LEACHATE SAMPLES SW846-3020

Analyst: G. MAPP Analysis Date: 29-SEP-92 Test: P130.9.0

Prep: TOX CHAR LEACHING PROCEDURE (TCLP METALS ONLY) SW846-1311 P106.1.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL WEIGHT OR VOLUME	50		mL

TCLP ARSENIC GFAA (1 POINT MSA) SW846-7060

Analyst: M. BAUER Analysis Date: 30-SEP-92 Instrument: GFAA Test: M703.6.0

Prep: GFAA ACID DIGESTION OF LEACHATE SAMPLES SW846-3020 P130.9.0

Prep: TOX CHAR LEACHING PROCEDURE (TCLP METALS ONLY) SW846-1311 P106.1.0

Parameter	Corrected Result	Observed Result	Detection Limit	Units	Matrix Spike True Value	Sample + Spike	Matrix Spike % Recovery
ARSENIC		BDL	0.005	mg/L	0.0250	0.0273	109
ADDITION 1		0.010		mg/L			
SAMPLE		0.0012		Conc			
SAMPLE + ADD 1		0.010		Conc			
DILUTION		1					

NO CORRECTED VALUE DUE TO SPIKE RECOVERY BEING >100%

TCLP SELENIUM GFAA (1 POINT MSA) SW846-7740

Analyst: S. O'NEAL Analysis Date: 30-SEP-92 Instrument: GFAA Test: M728.6.0

Prep: GFAA ACID DIGESTION OF LEACHATE SAMPLES SW846-3020 P130.9.0

Prep: TOX CHAR LEACHING PROCEDURE (TCLP METALS ONLY) SW846-1311 P106.1.0

Parameter	Corrected Result	Observed Result	Detection Limit	Units	Matrix Spike True Value	Sample + Spike	Matrix Spike % Recovery
SELENIUM	BDL	BDL	0.0050	mg/L	0.0250	0.0205	82
ADDITION 1		0.010		mg/L			
SAMPLE		0.000		Conc			
SAMPLE + ADD 1		0.0086		Conc			
DILUTION		1					

MERCURY CVAA ACID DIGESTION OF LEACHATE SAMPLES SW846-7470

Analyst: J. VANSKYOCK Analysis Date: 29-SEP-92 Test: P131.9.0

Prep: TOX CHAR LEACHING PROCEDURE (TCLP METALS ONLY) SW846-1311 P106.1.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	10		mL
FINAL VOLUME	100		mL

TCLP MERCURY CVAA (1 POINT MSA) SW846-7470

Analyst: J. VANSKYOCK Analysis Date: 30-SEP-92 Instrument: CVAA Test: M720.6.0

Prep: MERCURY CVAA ACID DIGESTION OF LEACHATE SAMPLES SW846-7470 P131.9.0

Prep: TOX CHAR LEACHING PROCEDURE (TCLP METALS ONLY) SW846-1311 P106.1.0

Parameter	Corrected Result	Observed Result	Detection Limit	Units	Matrix Spike True Value	Sample + Spike	Matrix Spike % Recovery
MERCURY	BDL	BDL	0.005	mg/L	0.0200	0.0210	105
ADDITION 1		0.00100		mg/L			
SAMPLE		0.000		Conc			
SAMPLE + ADD 1		0.00103		Conc			
DILUTION		1					

NO CORRECTED VALUE NEEDED >100 SPIKE RECOVERY

RO HEADSPACE EXTRACTION (TCLP) SW846-1311

Analyst: W. WHITE Analysis Date: 21-SEP-92 Test: P108.1.0

Parameter	Result	Det. Limit	Units
TOTAL SAMPLE WEIGHT	25.0		Grams
LIQUID PORTION	0.00		mL
LIQUID FRACTION (GRAMS)	0.00		Grams
EXTRACTED SAMPLE	25.0		Grams
PHASE ONE VOLUME (REP 0)	393.7		mL
PHASE TWO VOLUME (REP 1)	0.00		mL

TCLP VOLATILE ORGANICS (TOXICITY CHARACTERISTIC) SW846-8240

Analyst: G. WILSON Analysis Date: 22-SEP-92 Instrument: GC/MS VOA Test: O513.7.0

Prep: ZERO HEADSPACE EXTRACTION (TCLP) SW846-1311 P108.1.0

Parameter	Corrected Result	Observed Result	Detection Limit	Units	Matrix Spike True Value	Sample + Spike	Matrix Spike % Recovery
BENZENE	BDL	BDL	50	ug/L	500	430	86
CARBON TETRACHLORIDE	BDL	BDL	50	ug/L	500	450	90
CHLOROBENZENE	BDL	BDL	50	ug/L	500	440	88
CHLOROFORM	BDL	BDL	50	ug/L	500	400	80
1,2-DICHLOROETHANE	BDL	BDL	50	ug/L	500	470	94
1,1-DICHLOROETHYLENE	BDL	BDL	50	ug/L	500	500	100
METHYL ETHYL KETONE	BDL	BDL	100	ug/L	500	580	116
TETRACHLOROETHYLENE	BDL	BDL	50	ug/L	500	420	84
TRICHLOROETHYLENE		BDL	50	ug/L	500	430	86
VINYL CHLORIDE		BDL	100	ug/L	500	560	112
RROGATE RECOVERY							
DICHLOROETHANE-D4		101		% Rec			
TOLUENE-D8		103		% Rec			
BROMOFLUOROBENZENE		103		% Rec			

1:10 DILUTION

Sample Comments

BDL Below Detection Limit
NEG Negative

Sample chain of custody number 15985.

IDEM Drinking Water Certification Number C-49-01

Quality Assurance Officer: H A Busch

OhioEPA
State of Ohio Environmental Protection Agency
P.O. Box 1049, 1800 WaterMark Dr.
Columbus, Ohio 43266-0149
(614) 644-3020 Fax (614) 644-2329

Richard F. Celeste
Governor

CLOSURE PLAN APPROVAL

CERTIFIED MAIL

December 13, 1990

RE: CLOSURE PLAN
E.I. DuPont de Nemours
OHD 005 041 843

Mr. Anthony Parchomenko
E.I. DuPont de Nemours
1930 Tremainsville Road
Toledo, Ohio 43613

Dear Mr. Parchomenko

On August 2, 1989, E.I. DuPont de Nemours submitted to Ohio EPA a closure plan for hazardous waste storage tanks 1-13 and 15 located at 1930 Tremainsville Road, Toledo, Ohio. Revisions to the closure plan were received on October 2, 1990 in response to the Director's August 6, 1990 Notice of Deficiency. The closure plan was submitted pursuant to Rule 3745-66-12 of the Ohio Administrative Code (OAC) in order to demonstrate that E.I. DuPont de Nemours' proposal for closure complies with the requirements of OAC Rules 3745-66-11 and 3745-66-12.

The public was given the opportunity to submit written comments regarding the closure plan of E.I. DuPont de Nemours in accordance with OAC Rule 3745-66-12. No comments were received by Ohio EPA in this matter.

Based upon review of E.I. DuPont de Nemours' submittal and subsequent revisions, I conclude that the closure plan for the hazardous waste facility at E.I. DuPont de Nemours meets the performance standard contained in OAC Rule 3745-66-11 and complies with the pertinent parts of OAC Rule 3745-66-12.

The closure plan submitted to Ohio EPA by E.I. DuPont de Nemours is hereby approved.

I certify this to be a true and accurate copy of the official document as filed in the records of the Ohio Environmental Protection Agency.

By: Mary Cavin Date 12-13-90

OHIO E.P.A.
DEC 13 90
ENTERED DIRECTOR'S JOURNAL

Notwithstanding compliance with the terms of the closure plan, the Director may, on the basis of any information that there is or has been a release of hazardous waste, hazardous constituents, or hazardous substances into the environment, issue an order pursuant to Section 3734.20 et seq of the Revised Code or Chapters 3734 or 6111 of the Revised Code requiring corrective action or such other response as deemed necessary; or initiate appropriate action; or seek any appropriate legal or equitable remedies to abate pollution or contamination or to protect public health or safety or the environment.

Nothing here shall waive the right of the Director to take action beyond the terms of the closure plan pursuant to the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.A. §9601 et seq., as amended by the Superfund Amendments and Reauthorization Act of 1986, Pub. L. 99-499 ("CERCLA") or to take any other action pursuant to applicable Federal or State law, including but not limited to the right to issue a permit with terms and conditions requiring corrective action pursuant to Chapters 3734 or 6111 of the Revised Code; the right to seek injunctive relief, monetary penalties and punitive damages, to undertake any removal, remedial, and/or response action relating to the facility, and to seek recovery for any costs incurred by the Director in undertaking such actions.

You are notified that this action of th6535rector is final and may be appealed to the Environmental Board of Review pursuant to Section 3745.014 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. It must be filed with the Environmental Board of Review within thirty (30) days after notice of the Director's action. A copy of the appeal must be served on the Director of the Ohio Environmental Protection Agency and the Environmental Enforcement Section of the Office of the Attorney General within three (3) days of filing with the Board. An appeal may be filed with the Environmental Board of Review at the following address: Environmental Board of Review, 236 East Town Street, Room 300, Columbus, Ohio 43266-0557.

I certify this to be a true and accurate copy of the official document as filed in the records of the Ohio Environmental Protection Agency.

By: Mary Cavin Date 12-13-90

OHIO E.P.A.
DEC 13 90
ENTERED DIRECTOR'S JOURNAL

When closure is completed, the Ohio Administrative Code Rule 3745-66-15 requires the owner or operator of a facility to submit to the Director of the Ohio EPA certification by the owner or operator and an independent, registered professional engineer that the facility has been closed in accordance with the approved closure plan. The certification by the owner or operator shall include the statement found in OAC 3745-50-42(D). These certifications should be submitted to: Ohio Environmental Protection Agency, Division of Solid and Hazardous Waste Management, Attn: Thomas Crepeau, Data Management Section, P.O. Box 1049, Columbus, Ohio 43266-0149.

Sincerely,

Richard L. Shank

Richard L. Shank, Ph.D.
Director

RLS/PV/pas

cc: Paul Vandermeer, Ohio EPA, DSHWM
Lisa Pierard, USEPA-Region V
Joel Morbito, USEPA - Region V
Seuk W. Kang, NWDO, Ohio EPA

OHD-005041843
Issued June 23, 1989

HAZARDOUS WASTE TANK STORAGE FACILITY
PARTIAL CLOSURE PLAN

E. I. du Pont de Nemours & Co.
TOLEDO APD PLANT

1930 Tremainsville Road
Toledo, Ohio 43613
419-478-1211

Modified September 26, 1990

by: Anthony Parchomenko
Environmental Coordinator

DUPONT TOLEDO PLANT

HAZARDOUS WASTE STORAGE FACILITY
PARTIAL CLOSURE PLAN & NOTICE

I. GENERAL

A. Facility Description and Location

1. The E. I. du Pont de Nemours & Co., Inc. facility is located along Tremainsville Road at Upton Avenue and is approximately 17 acres in size, TOPOGRAPHICAL MAP IS ATTACHED. (Attachment I).

The facility has operated since 1934 for the manufacture of various paints and finishes including high grade automotive paints, clear finishes, and intermediate resins/polymers. Plant operations include the blending of various pigments, resins/polymers, and solvents to generate a salable product meeting the required standards of each independent commercial client.

2. THE PLANT IS SURROUNDED BY A 6 FOOT CHAIN LINK FENCE, ABOVE WHICH ARE 3 ANGLED STRANDS OF BARBED WIRE. ALL GATES ARE LOCKED EXCEPT WHEN UNDER DIRECT VISUAL SURVEILLANCE BY GUARDS OR OTHER PLANT PERSONNEL. THE SITE IS UNDER CONTINUOUS SURVEILLANCE 24-HOURS A DAY, 7 DAYS A WEEK BY PLANT GUARDS USING WALKING TOURS AND ELECTRONIC EQUIPMENT.

"NO SMOKING" SIGNS ARE APPROPRIATELY POSTED THROUGHOUT

THE PLANT, AND THE PERIMETER FENCE IS APPROPRIATELY POSTED WITH "DANGER-UNAUTHORIZED PERSONNEL KEEP OUT". IT IS THE INTENT OF E.I.DUPONT DE NEMOURS & CO. TO OPERATE THIS FACILITY AS LONG AS FEASIBLE. BARRING ANY UNFORESEEN CIRCUMSTANCES, CLOSURE OF THIS ENTIRE FACILITY IS NOT EXPECTED BEFORE THE YEAR 2010.

As a result of these operations, solvents contaminated with pigments and polymer solids are generated which cannot be reused in the various products. These used solvents are defined by three distinct contaminants, resin strip solvents (a byproduct), resin wash solvents, and pigmented wash solvents. These solvents, which exhibit the same characteristics as raw materials, have been stored in and processed through the 14 tanks for treatment purposes. The resin strip solvents are generally saved and/or used as needed for their high B.t.u. value in the plant's 3 steam generating packaged boilers. The resin wash solvents are also used for fuel value or processed through the Thin Film Evaporator and reused. The pigmented wash solvents are always processed through the Thin Film Evaporator for reuse as washes for pigmented products. The still bottoms from the Thin Film Evaporator are disposed of in BULK OR drums as Hazardous Waste at an off site incinerator.

3. PRESENTLY, THE SITE HAS IN OPERATION THE FOLLOWING

HAZARDOUS WASTE MANAGEMENT UNITS:

a. TANK #1, EXISTING FILLING FLOOR PIGMENTED DIRTY WASH SOLVENT ACCUMULATION TANK (D001, D005, D007, D008, D018, D026, D035, F003, F005).

b. TANKS #2 THROUGH #8, FORMERLY RESIN DIRTY WASH SOLVENT ACCUMULATION AND TRANSFER TANKS TO BOILER FEED TANK. OUT OF SERVICE.

c. TANKS #9, #10, AND #15, FORMERLY PIGMENTED DIRTY WASH SOLVENT HOLD AND TRANSFER TANKS TO SOLVENT RECOVERY. OUT OF SERVICE.

d. TANKS #11 AND #12, FORMERLY PIGMENTED DIRTY WASH SOLVENT FEED TANKS TO SOLVENT RECOVERY. OUT OF SERVICE.

e. TANK #13, FORMERLY RESIN DIRTY WASH SOLVENT FEED TANK TO BOILERS. OUT OF SERVICE.

f. TANK #14, EXISTING PIGMENTED DIRTY WASH SOLVENT FEED TANK TO SOLVENT RECOVERY (D001, D005, D007, D008, D018, D026, D035, F003, F005).

g. TANK #W10, EXISTING 90 DAY RESIN DIRTY WASH SOLVENT FEED TANK TO BOILERS (D001, D018, D035, F003, F005).

h. TANK #W11, EXISTING 90 DAY STILL BOTTOMS ACCUMULATION TANK (D001, D005, D007, D008, D018, D026, D035, F003, F005).

i. ROW F (OF FINISHED PRODUCT STORAGE PAD) PERMITTED HAZARDOUS WASTE CONTAINER STORAGE (D001, D005, D007, D008, D018, D026, D035, F003, F005).

j. TANK #L01, EXISTING 90 DAY REMOVABLE, USED PAINT TEST SAMPLES ACCUMULATION TANK (D001, D005, D007, D008, D018, D026, D035, F003, F005).

k. SATELLITE ACCUMULATION DRUMS, GRINDING 1B3. ACCUMULATION OF SCRAP PAINT AND CHEMICALLY CONTAMINATED SOLIDS (D001, D005, D007, D008, D018, D026, D035, F003, F005).

l. SATELLITE ACCUMULATION DRUMS, GRINDING 1A2. ACCUMULATION OF SCRAP PAINT AND CHEMICALLY CONTAMINATED SOLIDS (D001, D005, D007, D008, D018, D026, D035, F003, F005).

m. SATELLITE ACCUMULATION DRUMS, MIXING 1B2. ACCUMULATION OF SCRAP PAINT, AND CHEMICALLY CONTAMINATED SOLIDS (D001, D005, D007, D008, D018, D026, D035, F003, F005).

n. SATELLITE ACCUMULATION DRUMS, FILLING 1B1. ACCUMULATION OF SCRAP PAINT AND CHEMICALLY CONTAMINATED SOLIDS (D001, D005, D007, D008, D018, D026, D035, F003, F005).

o. SATELLITE ACCUMULATION DRUMS, CHEMICAL 1H. ACCUMULATION OF SCRAP RESIN AND CHEMICALLY CONTAMINATED SOLIDS (D001, D018, D026, D035, F003, F005).

p. SATELLITE ACCUMULATION DRUMS, RESIN 1J. ACCUMULATION OF SCRAP RESIN AND CHEMICALLY CONTAMINATED SOLIDS (D001, D018, D026, D035, F003, F005).

q. SATELLITE ACCUMULATION DRUMS, RESIN 1F. ACCUMULATION OF SCRAP RESIN AND CHEMICALLY CONTAMINATED SOLIDS (D001, D018, D026, D035, F003, F005).

4. The intent of this closure is to replace the existing 14 hazardous waste tanks THAT ARE NOT EQUIPPED WITH SECONDARY CONTAINMENT OR LEAK DETECTION SYSTEMS AND GENERALLY ARE NOT ACCEPTABLE FOR THIS TYPE OF RETROFITING. THE 14 TANKS WILL BE REPLACED with 3 tanks which meet the Secondary Containment AND LEAK DETECTION requirements, and to replace the handling of still bottoms in drums with bulk handling operations. LAYOUT SKETCHES OF THE TANKS TO BE REMOVED ARE SHOWN IN ATTACHMENTS IV, IVA, IVB, IVC, IVD, AND IVE.

B. Applicable Regulations

1. THIS SITE IS OPERATING UNDER A NUMBER OF ENVIRONMENTAL PERMITS, AS LISTED:

a. AIR POLLUTION SOURCE PERMIT #0448010058-B001

b. AIR POLLUTION SOURCE PERMIT #0448010058-B002

c. AIR POLLUTION SOURCE PERMIT #0448010058-B003

d. AIR POLLUTION SOURCE PERMIT #0448010058-B004

e. AIR POLLUTION SOURCE PERMIT #0448010058-B005

f. AIR POLLUTION SOURCE PERMIT #0448010058-P001

g. AIR POLLUTION SOURCE PERMIT #0448010058-P002

h. AIR POLLUTION SOURCE PERMIT #0448010058-P003

i. AIR POLLUTION SOURCE PERMIT #0448010058-P004

j. AIR POLLUTION SOURCE PERMIT #0448010058-P005

k. AIR POLLUTION SOURCE PERMIT #0448010058-P006

l. AIR POLLUTION SOURCE PERMIT #0448010058-P007

m. AIR POLLUTION SOURCE PERMIT #0448010058-K001

n. NPDES DISCHARGE PERMIT #2IF00016*DD

o. POTW DISCHARGE PERMIT ORDER #049-87-A

p. AIR POLLUTION SOURCE REGISTRATION #0448010058-G001

THERE IS NO KNOWLEDGE OF A TSCA PERMIT NUMBER.

2. This plan complies with the provisions of 40 CFR Part 264, Sub-parts G, H, and J; AND OAC RULE 3745-66-10.

II. DESCRIPTION OF CLOSURE ACTIVITIES

A. Purpose

The following document presents a plan and outlines the necessary steps required to close 14 (Tanks #1 through #13, and Tank #15) out of the existing 15 RCRA Hazardous Waste Storage Tanks at the E. I. du Pont de Nemours & Co. paint and polymer manufacturing facility in Toledo, Ohio. Included are plans for removal TO OTHER TANKS, OR disposal of all materials remaining in the 14 tanks, and cleaning and decontamination of all surfaces and tanks. THE TANKS THAT ARE TO BE REMOVED AND ANY ANCILLARY EQUIPMENT ARE SHOWN ON ATTACHMENTS IV, IVA, IVB, IVC, IVD, AND IVE. The 14 tanks taken out of Hazardous Waste service are being replaced with 3 newly

installed tanks that meet the Secondary Containment requirements specified in 40 CFR Subpart J Section 264.193, and OAC 3745-66-93(A).

B. Decontamination

For the partial closure of the tanks, all of which are bottom unloading, draining the tanks and decontamination will remove any sludge from the bottom of the tanks. Each tank, supporting pipes, and auxiliary equipment will be further decontaminated as follows:

(1) Initial solvent rinsing until visual evidence of contamination is removed.

(2) A hot water flush with detergent cleaning solution using high pressure spray to remove any residue. IT IS ANTICIPATED THAT NO MORE THAN A TOTAL OF 30 GALLONS OF RESIDUE IS PRESENT IN THE 14 TANKS TO BE CLOSED, BASED ON EXISTING KNOWLEDGE OF PAINT MANUFACTURING.

(3) Triple rinsing with high pressure clean water. AFTER THE TRIPLE RINSE, SAMPLES OF THE RINSEATE SHALL BE ANALYZED FOR CONSTITUENTS OF EACH INDIVIDUAL TANK. IF THE PARAMETERS ARE AT OR BELOW THE CRITERIA SPECIFIED IN B-5 AND THERE IS NO VISUAL RESIDUAL CONTAMINATION, THE TANKS WILL BE CERTIFIED AS CLEAN.

(4) The tanks will be visually inspected to determine if any residual contaminants remain. If

contamination is still evident, the tanks will be rinsed again using the high pressure clean water until clean.

(5) The concrete floors under tank #1 through tank #12, and tank #15 will be cleaned TO REMOVE ANY STAINS. TO CONFIRM THAT THE FLOORS ARE CLEAN, THE RINSEATE(S) SHALL BE ANALYZED FOR THE PARAMETERS OF INTEREST USING THE METHODS AND DETECTION LIMITS AS OUTLINED IN SW-846 - 3RD EDITION. PARAMETERS AT OR BELOW THE CRITERIA SPECIFIED BELOW CAN BE CERTIFIED AS CLEAN.

A. PUBLIC DRINKING WATER MAXIMUM CONTAMINANT LEVEL (MCL) FOR HAZARDOUS WASTE CONSTITUENTS AS PROMULGATED IN 40 CFR 141.11 AND OAC 3745-81-11 FOR INORGANICS AND 40 CFR 141.12 AND OAC 3745-81-12 FOR ORGANICS;

B. IF AN MCL IS NOT AVAILABLE, THEN THE MAXIMUM CONTAMINANT LEVEL GOAL (MCLG) AS PROMULGATED IN 40 CFR 141.50 SHALL BE USED; OR

C. IF NEITHER AN MCL NOR MCLG IS AVAILABLE, 1 MG/L SHALL BE USED.

IF THE MCL OR MCLG IS LESS THAN THE CONTAMINANT'S ANALYTICAL DETECTION LIMIT USING METHODS FOUND IN USEPA PUBLICATION SW-846, THE SW-846 ANALYTICAL DETECTION LIMIT SHALL BE USED AS THE CLEAN STANDARD.

If additional cleaning is required, a high

pressure water spray will be used.

(6) THE ONLY CONTAMINATION OF THE TANK #13 AREA WOULD BE DUE TO POSSIBLE OVERFILLS OR LEAKS FROM THE UNLOADING PUMP AND CONNECTIONS. The grounds around and under tank #13, ATTACHMENT VIE, (ESTIMATED TO BE APPROXIMATELY 400 FEET SQUARE) will be sampled and tested to determine possible contamination. A TOTAL OF 9 SAMPLES WILL BE TAKEN; 4 OF THE SAMPLES FROM THE PERIMETER, 4 SAMPLES FROM WITHIN THE PERIMETER OF THE AREA, AND 2 BACKGROUND SAMPLES IN AN AREA APPROXIMATELY 110 FEET NORTH OF THE AREA. THE Representative soil samples from the diked area and appropriate background locations will be analyzed for pH or corrosivity, ignitability, E.P. Toxicity for lead, MEK, acetone, and toluene using the appropriate methods outlined in SW-846, "Test Methods for Evaluating Solid Waste-Physical/Chemical Methods, 3rd Edition".
If the samples from TANK #13 area do not show contamination above background levels, the closure shall be deemed to have met the requirements of 40 CFR 264.197(a).

If the samples from WITHIN the area indicate THAT contamination is present ABOVE THE BACKGROUND LEVELS, AN APPROPRIATE AMOUNT OF soil will be removed. BASED ON KNOWLEDGE OF TANK #13 OPERATIONS, IT IS ESTIMATED THAT APPROXIMATELY 40

YARDS OF SOIL MIGHT HAVE TO BE REMOVED AND DISPOSED OFF. THE SOIL TESTING AND REMOVAL, IF NEEDED, WILL BE CONTRACTED TO AN INDEPENDENT ENGINEERING FIRM. ANY REMOVAL OF SOIL IS NOT FORESEEN AS A PROBLEM. THE AREA IS OUTSIDE, WELL EXPOSED TO GOOD AIR MOVEMENT, AND IS EASILY ACCESSIBLE TO HEAVY EQUIPMENT. ANY SOIL TO BE REMOVED WILL BE DEPOSITED INTO AN APPROPRIATE SIZE DUMPSTER FOR SHIPMENT TO CHEMICAL WASTE MANAGEMENT LANDFILL IN FT.WAYNE, INDIANA, APPROXIMATELY 150 MILES FROM THIS FACILITY.

(7) All cleaning solutions (NO BTU VALUE) shall be collected into a tanker OR DRUMS and shipped under a hazardous waste manifest IF APPROPRIATE, to Ross Incineration Services for disposal. ANY STORED WASTES FROM THE 14 TANKS (HI BTU VALUE) THAT REQUIRE DISPOSAL WILL BE COLLECTED INTO TANKERS OR DRUMS AND SHIPPED UNDER A HAZARDOUS WASTE MANIFEST TO LAFARGE SYSTECH FOR FUELS BLENDING.

The work to empty out and rinse/flush the tanks will be done by plant personnel. Initial concrete floor cleaning will also be done by plant personnel.

ALL ASPECTS OF THIS CLOSURE REGARDING EMPTYING TANKS, CLEANING TANKS AND FLOORS WITH SOLVENT AND OTHER CHEMICALS, AND ANY OTHER TASK INVOLVING USE OF SOLVENTS WILL BE PERFORMED ACCORDING TO DUPONT

LOADING PROCEDURES AND STANDARD PRACTICES. PAGES 13 THROUGH 15 OF OUR MIXER LOADING MANUAL (ATTACHMENT V) COVERS THE SELECTION AND USE OF PERSONAL PROTECTIVE EQUIPMENT.

SINCE OUR HAZARDOUS WASTE IS ACTUALLY PAINT OR PAINT COMPONENTS, HANDLING OF HAZARDOUS WASTE IS COVERED IN OUR STANDARDS. ALL TASKS PERFORMED ON THIS SITE ARE ACCORDING TO PRESCRIBED SAFETY STANDARDS. PERSONAL PROTECTIVE EQUIPMENT USED DURING THIS CLOSURE WILL BE HANDLED SAME AS AT OTHER TIMES. PERSONAL PROTECTIVE EQUIPMENT GENERALLY IS NOT DISCARDED UNLESS IT IS CONTAMINATED WITH PAINT OR OTHER CHEMICALS AND CONNOT BE CLEANED, IN WHICH CASE IT IS SENT OUT AS PART OF OUR "PAINT OR CHEMICALLY CONTAMINATED SOLIDS" WASTE STREAM FOR INCINERATION.

If the high pressure water cleaning is needed, a local firm will be contracted to perform these services.

(8) Soil sampling and testing for tank #13 will also be contracted out to a local approved environmental services firm, as well as any remedial action at tank #13.

C. Dismantling

ALL 14 tanks being closed (TANK #1 - #13, AND #15) WILL be physically DISMANTLED, AND SOLD AS SCRAP.

III. SCHEDULE OF CLOSURE

A. The schedule for the partial closure of the tanks identified above will begin approximately 45 days after this Notice and Plan is filed with the USEPA and OEPA, or sooner, if approval can be obtained. The time frame for the closure steps is therefore referenced to this date ("A").

B. The steps for the planned partial closure are:

Time	Step
1. June, 1989	Submission of Closure Plan and Notice to USEPA and OEPA.
2. "A" plus 90 days	USEPA and OEPA must have approved or rejected (264.112/3745-66-12).
3. "A" plus 90 days	Start closure of the 14 tanks.
4. "A" plus 105 days	Final wastes removed from all tanks.
5. "A" plus 120 days	Determine if closure can be complete in 75 days; if yes, arrange for dismantling of equipment, removal of wastes, engineering support if needed, etc.
6. "A" plus 135 days	Flush and decontaminate all tanks. Fluids and residues disposed offsite.
7. "A" plus 135 days	Collect soil samples from tank #13 area and submit for analysis.
8. "A" plus 5 months	Inspect tanks for any remaining residues.
9. "A" plus 150 days	Remove and dispose, if necessary, any

	contaminated soil from tank #13 area.
10. "A" plus 5 months	Verify all actions as prescribed.
11. "A" plus 6 months	Certify closure of each tank, and submit certification and reports to USEPA and OEPA.

IV. CERTIFICATION

The closure activities outlined in this plan will be inspected and certified by an independent, registered, professional, engineer (Midwest Environmental Consultants in Toledo, Ohio). In addition, Mr. Samuel J. Bright, the Toledo Plant Manager will also certify closure activities. Each certification shall be worded in accordance to the requirements of 40 CFR 264.115/OAC 3745-66-15.

40 CFR 264.115/OAC 3745-66-15 DO NOT SPECIFY INCLUSION OF ANY TESTING AND ANALYSIS, CRITERIA FOR DETERMINING THE ADEQUACY OF THE ANALYSES, SCHEDULE OF INSPECTIONS BY THE INDEPENDENT, REGISTERED PROFESSIONAL ENGINEER, NOR TYPE OF DOCUMENTATION ACQUIRED DURING CLOSURE ACTIVITIES. IT IS EXPECTED THAT ALL TESTING AND ANALYSES OUTLINED IN THIS PARTIAL CLOSURE PLAN, ALL STATED ADEQUACY CRITERIA AS STATED IN THIS CLOSURE PLAN, ALL INSPECTIONS AS REQUIRED AND CONDUCTED BY THE INDEPENDENT, REGISTERED PROFESSIONAL ENGINEER DURING THE CLOSURE PROCESS WILL BE DOCUMENTED AND RETAINED ON SITE FOR A PERIOD OF THREE YEARS.

V. COST ESTIMATES and ESTIMATE OF MAXIMUM INVENTORY OF HAZARDOUS WASTE

Attachment II table shows the current maximum costs and maximum hazardous waste inventory. The costs are calculated under the assumption that all closure work is to be done by outside contract personnel.

VI. FINANCIAL ASSURANCE MECHANISM

E. I. du Pont de Nemours & Co. guarantees the costs of closure for the RCRA permitted facility described in this partial closure plan in accordance with the requirements of 40 CFR 264.143 and OAC 3745-66-43. A copy of this financial demonstration and corporate guarantee is provided as Attachment VI.

VII. LIABILITY REQUIREMENTS

E. I. du Pont de Nemours & Co. maintains liability coverage for sudden accidental occurrences in the amount of $1 million per occurrence with an annual aggregate of at least $2 million, exclusive of legal defense costs. E. I. du Pont de Nemours & Co. chooses to demonstrate this coverage as specified by 40 CFR 264.143 and OAC 3645-66-43. A copy of this financial demonstration and corporate guarantee is provided as Attachment VI.

OHD-005041843
Issued June 23, 1989

HAZARDOUS WASTE TANK STORAGE FACILITY
PARTIAL CLOSURE PLAN

E. I. du Pont de Nemours & Co.
TOLEDO APD PLANT

1930 Tremainsville Road
Toledo, Ohio 43613
419-478-1211

Modified September 26, 1990

by: Anthony Parchomenko
Environmental Coordinator

DUPONT TOLEDO PLANT

HAZARDOUS WASTE STORAGE FACILITY
PARTIAL CLOSURE PLAN & NOTICE

I. GENERAL

A. Facility Description and Location

1. The E. I. du Pont de Nemours & Co., Inc. facility is located along Tremainsville Road at Upton Avenue and is approximately 17 acres in size, TOPOGRAPHICAL MAP IS ATTACHED. (Attachment I).

The facility has operated since 1934 for the manufacture of various paints and finishes including high grade automotive paints, clear finishes, and intermediate resins/polymers. Plant operations include the blending of various pigments, resins/polymers, and solvents to generate a salable product meeting the required standards of each independent commercial client.

2. THE PLANT IS SURROUNDED BY A 6 FOOT CHAIN LINK FENCE, ABOVE WHICH ARE 3 ANGLED STRANDS OF BARBED WIRE. ALL GATES ARE LOCKED EXCEPT WHEN UNDER DIRECT VISUAL SURVEILLANCE BY GUARDS OR OTHER PLANT PERSONNEL. THE SITE IS UNDER CONTINUOUS SURVEILLANCE 24-HOURS A DAY, 7 DAYS A WEEK BY PLANT GUARDS USING WALKING TOURS AND ELECTRONIC EQUIPMENT.

"NO SMOKING" SIGNS ARE APPROPRIATELY POSTED THROUGHOUT

THE PLANT, AND THE PERIMETER FENCE IS APPROPRIATELY POSTED WITH "DANGER-UNAUTHORIZED PERSONNEL KEEP OUT". IT IS THE INTENT OF E.I.DUPONT DE NEMOURS & CO. TO OPERATE THIS FACILITY AS LONG AS FEASIBLE. BARRING ANY UNFORESEEN CIRCUMSTANCES, CLOSURE OF THIS ENTIRE FACILITY IS NOT EXPECTED BEFORE THE YEAR 2010.

As a result of these operations, solvents contaminated with pigments and polymer solids are generated which cannot be reused in the various products. These used solvents are defined by three distinct contaminants, resin strip solvents (a byproduct), resin wash solvents, and pigmented wash solvents. These solvents, which exhibit the same characteristics as raw materials, have been stored in and processed through the 14 tanks for treatment purposes. The resin strip solvents are generally saved and/or used as needed for their high B.t.u. value in the plant's 3 steam generating packaged boilers. The resin wash solvents are also used for fuel value or processed through the Thin Film Evaporator and reused. The pigmented wash solvents are always processed through the Thin Film Evaporator for reuse as washes for pigmented products. The still bottoms from the Thin Film Evaporator are disposed of in BULK OR drums as Hazardous Waste at an off site incinerator.

3. PRESENTLY, THE SITE HAS IN OPERATION THE FOLLOWING

HAZARDOUS WASTE MANAGEMENT UNITS:

a. TANK #1, EXISTING FILLING FLOOR PIGMENTED DIRTY WASH SOLVENT ACCUMULATION TANK (D001, D005, D007, D008, D018, D026, D035, F003, F005).

b. TANKS #2 THROUGH #8, FORMERLY RESIN DIRTY WASH SOLVENT ACCUMULATION AND TRANSFER TANKS TO BOILER FEED TANK. OUT OF SERVICE.

c. TANKS #9, #10, AND #15, FORMERLY PIGMENTED DIRTY WASH SOLVENT HOLD AND TRANSFER TANKS TO SOLVENT RECOVERY. OUT OF SERVICE.

d. TANKS #11 AND #12, FORMERLY PIGMENTED DIRTY WASH SOLVENT FEED TANKS TO SOLVENT RECOVERY. OUT OF SERVICE.

e. TANK #13, FORMERLY RESIN DIRTY WASH SOLVENT FEED TANK TO BOILERS. OUT OF SERVICE.

f. TANK #14, EXISTING PIGMENTED DIRTY WASH SOLVENT FEED TANK TO SOLVENT RECOVERY (D001, D005, D007, D008, D018, D026, D035, F003, F005).

g. TANK #W10, EXISTING 90 DAY RESIN DIRTY WASH SOLVENT FEED TANK TO BOILERS (D001, D018, D035, F003, F005).

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i. ROW F (OF FINISHED PRODUCT STORAGE PAD) PERMITTED HAZARDOUS WASTE CONTAINER STORAGE (D001, D005, D007, D008, D018, D026, D035, F003, F005).

j. TANK #L01, EXISTING 90 DAY REMOVABLE, USED PAINT TEST SAMPLES ACCUMULATION TANK (D001, D005, D007, D008, D018, D026, D035, F003, F005).

k. SATELLITE ACCUMULATION DRUMS, GRINDING 1B3. ACCUMULATION OF SCRAP PAINT AND CHEMICALLY CONTAMINATED SOLIDS (D001, D005, D007, D008, D018, D026, D035, F003, F005).

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o. SATELLITE ACCUMULATION DRUMS, CHEMICAL 1H. ACCUMULATION OF SCRAP RESIN AND CHEMICALLY CONTAMINATED SOLIDS (D001, D018, D026, D035, F003, F005).

p. SATELLITE ACCUMULATION DRUMS, RESIN 1J. ACCUMULATION OF SCRAP RESIN AND CHEMICALLY CONTAMINATED SOLIDS (D001, D018, D026, D035, F003, F005).

q. SATELLITE ACCUMULATION DRUMS, RESIN 1F. ACCUMULATION OF SCRAP RESIN AND CHEMICALLY CONTAMINATED SOLIDS (D001, D018, D026, D035, F003, F005).

4. The intent of this closure is to replace the existing 14 hazardous waste tanks THAT ARE NOT EQUIPPED WITH SECONDARY CONTAINMENT OR LEAK DETECTION SYSTEMS AND GENERALLY ARE NOT ACCEPTABLE FOR THIS TYPE OF RETROFITING. THE 14 TANKS WILL BE REPLACED with 3 tanks which meet the Secondary Containment AND LEAK DETECTION requirements, and to replace the handling of still bottoms in drums with bulk handling operations. LAYOUT SKETCHES OF THE TANKS TO BE REMOVED ARE SHOWN IN ATTACHMENTS IV, IVA, IVB, IVC, IVD, AND IVE.

B. Applicable Regulations

1. THIS SITE IS OPERATING UNDER A NUMBER OF ENVIRONMENTAL PERMITS, AS LISTED:

a. AIR POLLUTION SOURCE PERMIT #0448010058-B001

b. AIR POLLUTION SOURCE PERMIT #0448010058-B002

c. AIR POLLUTION SOURCE PERMIT #0448010058-B003

d. AIR POLLUTION SOURCE PERMIT #0448010058-B004

e. AIR POLLUTION SOURCE PERMIT #0448010058-B005

f. AIR POLLUTION SOURCE PERMIT #0448010058-P001

g. AIR POLLUTION SOURCE PERMIT #0448010058-P002

h. AIR POLLUTION SOURCE PERMIT #0448010058-P003

i. AIR POLLUTION SOURCE PERMIT #0448010058-P004

j. AIR POLLUTION SOURCE PERMIT #0448010058-P005

k. AIR POLLUTION SOURCE PERMIT #0448010058-P006

l. AIR POLLUTION SOURCE PERMIT #0448010058-P007

m. AIR POLLUTION SOURCE PERMIT #0448010058-K001

n. NPDES DISCHARGE PERMIT #2IF00016*DD

o. POTW DISCHARGE PERMIT ORDER #049-87-A

p. AIR POLLUTION SOURCE REGISTRATION #0448010058-G001

THERE IS NO KNOWLEDGE OF A TSCA PERMIT NUMBER.

2. This plan complies with the provisions of 40 CFR Part 264, Sub-parts G, H, and J; AND OAC RULE 3745-66-10.

II. DESCRIPTION OF CLOSURE ACTIVITIES

A. Purpose

The following document presents a plan and outlines the necessary steps required to close 14 (Tanks #1 through #13, and Tank #15) out of the existing 15 RCRA Hazardous Waste Storage Tanks at the E. I. du Pont de Nemours & Co. paint and polymer manufacturing facility in Toledo, Ohio. Included are plans for removal TO OTHER TANKS, OR disposal of all materials remaining in the 14 tanks, and cleaning and decontamination of all surfaces and tanks. THE TANKS THAT ARE TO BE REMOVED AND ANY ANCILLARY EQUIPMENT ARE SHOWN ON ATTACHMENTS IV, IVA, IVB, IVC, IVD, AND IVE. The 14 tanks taken out of Hazardous Waste service are being replaced with 3 newly

installed tanks that meet the Secondary Containment requirements specified in 40 CFR Subpart J Section 264.193, and OAC 3745-66-93(A).

B. Decontamination

For the partial closure of the tanks, all of which are bottom unloading, draining the tanks and decontamination will remove any sludge from the bottom of the tanks. Each tank, supporting pipes, and auxiliary equipment will be further decontaminated as follows:

(1) Initial solvent rinsing until visual evidence of contamination is removed.

(2) A hot water flush with detergent cleaning solution using high pressure spray to remove any residue. IT IS ANTICIPATED THAT NO MORE THAN A TOTAL OF 30 GALLONS OF RESIDUE IS PRESENT IN THE 14 TANKS TO BE CLOSED, BASED ON EXISTING KNOWLEDGE OF PAINT MANUFACTURING.

(3) Triple rinsing with high pressure clean water. AFTER THE TRIPLE RINSE, SAMPLES OF THE RINSEATE SHALL BE ANALYZED FOR CONSTITUENTS OF EACH INDIVIDUAL TANK. IF THE PARAMETERS ARE AT OR BELOW THE CRITERIA SPECIFIED IN B-5 AND THERE IS NO VISUAL RESIDUAL CONTAMINATION, THE TANKS WILL BE CERTIFIED AS CLEAN.

(4) The tanks will be visually inspected to determine if any residual contaminants remain. If

contamination is still evident, the tanks will be rinsed again using the high pressure clean water until clean.

(5) The concrete floors under tank #1 through tank #12, and tank #15 will be cleaned TO REMOVE ANY STAINS. TO CONFIRM THAT THE FLOORS ARE CLEAN, THE RINSEATE(S) SHALL BE ANALYZED FOR THE PARAMETERS OF INTEREST USING THE METHODS AND DETECTION LIMITS AS OUTLINED IN SW-846 - 3RD EDITION. PARAMETERS AT OR BELOW THE CRITERIA SPECIFIED BELOW CAN BE CERTIFIED AS CLEAN.

A. PUBLIC DRINKING WATER MAXIMUM CONTAMINANT LEVEL (MCL) FOR HAZARDOUS WASTE CONSTITUENTS AS PROMULGATED IN 40 CFR 141.11 AND OAC 3745-81-11 FOR INORGANICS AND 40 CFR 141.12 AND OAC 3745-81-12 FOR ORGANICS;

B. IF AN MCL IS NOT AVAILABLE, THEN THE MAXIMUM CONTAMINANT LEVEL GOAL (MCLG) AS PROMULGATED IN 40 CFR 141.50 SHALL BE USED; OR

C. IF NEITHER AN MCL NOR MCLG IS AVAILABLE, 1 MG/L SHALL BE USED.

IF THE MCL OR MCLG IS LESS THAN THE CONTAMINANT'S ANALYTICAL DETECTION LIMIT USING METHODS FOUND IN USEPA PUBLICATION SW-846, THE SW-846 ANALYTICAL DETECTION LIMIT SHALL BE USED AS THE CLEAN STANDARD.

If additional cleaning is required, a high

pressure water spray will be used.

(6) THE ONLY CONTAMINATION OF THE TANK #13 AREA WOULD BE DUE TO POSSIBLE OVERFILLS OR LEAKS FROM THE UNLOADING PUMP AND CONNECTIONS. The grounds around and under tank #13, ATTACHMENT VIE, (ESTIMATED TO BE APPROXIMATELY 400 FEET SQUARE) will be sampled and tested to determine possible contamination. A TOTAL OF 9 SAMPLES WILL BE TAKEN; 4 OF THE SAMPLES FROM THE PERIMETER, 4 SAMPLES FROM WITHIN THE PERIMETER OF THE AREA, AND 2 BACKGROUND SAMPLES IN AN AREA APPROXIMATELY 110 FEET NORTH OF THE AREA. THE Representative soil samples from the diked area and appropriate background locations will be analyzed for pH or corrosivity, ignitability, E.P. Toxicity for lead, MEK, acetone, and toluene using the appropriate methods outlined in SW-846, "Test Methods for Evaluating Solid Waste-Physical/Chemical Methods, 3rd Edition".
If the samples from TANK #13 area do not show contamination above background levels, the closure shall be deemed to have met the requirements of 40 CFR 264.197(a).

If the samples from WITHIN the area indicate THAT contamination is present ABOVE THE BACKGROUND LEVELS, AN APPROPRIATE AMOUNT OF soil will be removed. BASED ON KNOWLEDGE OF TANK #13 OPERATIONS, IT IS ESTIMATED THAT APPROXIMATELY 40

YARDS OF SOIL MIGHT HAVE TO BE REMOVED AND DISPOSED OFF. THE SOIL TESTING AND REMOVAL, IF NEEDED, WILL BE CONTRACTED TO AN INDEPENDENT ENGINEERING FIRM. ANY REMOVAL OF SOIL IS NOT FORESEEN AS A PROBLEM. THE AREA IS OUTSIDE, WELL EXPOSED TO GOOD AIR MOVEMENT, AND IS EASILY ACCESSIBLE TO HEAVY EQUIPMENT. ANY SOIL TO BE REMOVED WILL BE DEPOSITED INTO AN APPROPRIATE SIZE DUMPSTER FOR SHIPMENT TO CHEMICAL WASTE MANAGEMENT LANDFILL IN FT.WAYNE, INDIANA, APPROXIMATELY 150 MILES FROM THIS FACILITY.

(7) All cleaning solutions (NO BTU VALUE) shall be collected into a tanker OR DRUMS and shipped under a hazardous waste manifest IF APPROPRIATE, to Ross Incineration Services for disposal. ANY STORED WASTES FROM THE 14 TANKS (HI BTU VALUE) THAT REQUIRE DISPOSAL WILL BE COLLECTED INTO TANKERS OR DRUMS AND SHIPPED UNDER A HAZARDOUS WASTE MANIFEST TO LAFARGE SYSTECH FOR FUELS BLENDING.

The work to empty out and rinse/flush the tanks will be done by plant personnel. Initial concrete floor cleaning will also be done by plant personnel.

ALL ASPECTS OF THIS CLOSURE REGARDING EMPTYING TANKS, CLEANING TANKS AND FLOORS WITH SOLVENT AND OTHER CHEMICALS, AND ANY OTHER TASK INVOLVING USE OF SOLVENTS WILL BE PERFORMED ACCORDING TO DUPONT

LOADING PROCEDURES AND STANDARD PRACTICES. PAGES 13 THROUGH 15 OF OUR MIXER LOADING MANUAL (ATTACHMENT V) COVERS THE SELECTION AND USE OF PERSONAL PROTECTIVE EQUIPMENT.

SINCE OUR HAZARDOUS WASTE IS ACTUALLY PAINT OR PAINT COMPONENTS, HANDLING OF HAZARDOUS WASTE IS COVERED IN OUR STANDARDS. ALL TASKS PERFORMED ON THIS SITE ARE ACCORDING TO PRESCRIBED SAFETY STANDARDS. PERSONAL PROTECTIVE EQUIPMENT USED DURING THIS CLOSURE WILL BE HANDLED SAME AS AT OTHER TIMES. PERSONAL PROTECTIVE EQUIPMENT GENERALLY IS NOT DISCARDED UNLESS IT IS CONTAMINATED WITH PAINT OR OTHER CHEMICALS AND CONNOT BE CLEANED, IN WHICH CASE IT IS SENT OUT AS PART OF OUR "PAINT OR CHEMICALLY CONTAMINATED SOLIDS" WASTE STREAM FOR INCINERATION.

If the high pressure water cleaning is needed, a local firm will be contracted to perform these services.

(8) Soil sampling and testing for tank #13 will also be contracted out to a local approved environmental services firm, as well as any remedial action at tank #13.

C. Dismantling

ALL 14 tanks being closed (TANK #1 - #13, AND #15) WILL be physically DISMANTLED, AND SOLD AS SCRAP.

III. SCHEDULE OF CLOSURE

A. The schedule for the partial closure of the tanks identified above will begin approximately 45 days after this Notice and Plan is filed with the USEPA and OEPA, or sooner, if approval can be obtained. The time frame for the closure steps is therefore referenced to this date ("A").

B. The steps for the planned partial closure are:

	Time	Step
1.	June, 1989	Submission of Closure Plan and Notice to USEPA and OEPA.
2.	"A" plus 90 days	USEPA and OEPA must have approved or rejected (264.112/3745-66-12).
3.	"A" plus 90 days	Start closure of the 14 tanks.
4.	"A" plus 105 days	Final wastes removed from all tanks.
5.	"A" plus 120 days	Determine if closure can be complete in 75 days; if yes, arrange for dismantling of equipment, removal of wastes, engineering support if needed, etc.
6.	"A" plus 135 days	Flush and decontaminate all tanks. Fluids and residues disposed offsite.
7.	"A" plus 135 days	Collect soil samples from tank #13 area and submit for analysis.
8.	"A" plus 5 months	Inspect tanks for any remaining residues.
9.	"A" plus 150 days	Remove and dispose, if necessary, any

	contaminated soil from tank #13 area.
10. "A" plus 5 months	Verify all actions as prescribed.
11. "A" plus 6 months	Certify closure of each tank, and submit certification and reports to USEPA and OEPA.

IV. CERTIFICATION

The closure activities outlined in this plan will be inspected and certified by an independent, registered, professional, engineer (Midwest Environmental Consultants in Toledo, Ohio). In addition, Mr. Samuel J. Bright, the Toledo Plant Manager will also certify closure activities. Each certification shall be worded in accordance to the requirements of 40 CFR 264.115/OAC 3745-66-15.

40 CFR 264.115/OAC 3745-66-15 DO NOT SPECIFY INCLUSION OF ANY TESTING AND ANALYSIS, CRITERIA FOR DETERMINING THE ADEQUACY OF THE ANALYSES, SCHEDULE OF INSPECTIONS BY THE INDEPENDENT, REGISTERED PROFESSIONAL ENGINEER, NOR TYPE OF DOCUMENTATION ACQUIRED DURING CLOSURE ACTIVITIES. IT IS EXPECTED THAT ALL TESTING AND ANALYSES OUTLINED IN THIS PARTIAL CLOSURE PLAN, ALL STATED ADEQUACY CRITERIA AS STATED IN THIS CLOSURE PLAN, ALL INSPECTIONS AS REQUIRED AND CONDUCTED BY THE INDEPENDENT, REGISTERED PROFESSIONAL ENGINEER DURING THE CLOSURE PROCESS WILL BE DOCUMENTED AND RETAINED ON SITE FOR A PERIOD OF THREE YEARS.

V. COST ESTIMATES and ESTIMATE OF MAXIMUM INVENTORY OF HAZARDOUS WASTE

Attachment II table shows the current maximum costs and maximum hazardous waste inventory. The costs are calculated under the assumption that all closure work is to be done by outside contract personnel.

VI. FINANCIAL ASSURANCE MECHANISM

E. I. du Pont de Nemours & Co. guarantees the costs of closure for the RCRA permitted facility described in this partial closure plan in accordance with the requirements of 40 CFR 264.143 and OAC 3745-66-43. A copy of this financial demonstration and corporate guarantee is provided as Attachment VI.

VII. LIABILITY REQUIREMENTS

E. I. du Pont de Nemours & Co. maintains liability coverage for sudden accidental occurrences in the amount of $1 million per occurrence with an annual aggregate of at least $2 million, exclusive of legal defense costs. E. I. du Pont de Nemours & Co. chooses to demonstrate this coverage as specified by 40 CFR 264.143 and OAC 3645-66-43. A copy of this financial demonstration and corporate guarantee is provided as Attachment VI.

HAZARDOUS WASTE TANK STORAGE FACILITY
PARTIAL CLOSURE PLAN

E. I. du Pont de Nemours & Co., Inc.
TOLEDO APD PLANT

1930 Tremainsville Road
Toledo, Ohio 43613
419-478-1211

June 23, 1989

by: Anthony Parchomenko
Senior Engineer

DUPONT TOLEDO PLANT

HAZARDOUS WASTE STORAGE FACILITY
PARTIAL CLOSURE PLAN & NOTICE

I. GENERAL

A. Facility Description and Location

The E. I. du Pont de Nemours & Co., Inc. facility is located along Tremainsville Road at Upton Avenue and is approximately 17 acres in size (Attachment I). The facility has operated since 1934 for the manufacture of various paints and finishes including high grade automotive paints, clear finishes, and intermediate resins/polymers. Plant operations include the blending of various pigments, resins/polymers, and solvents to generate a salable product meeting the required standards of each independent commercial client. As a result of these operations, solvents contaminated with pigments and polymer solids are generated which cannot be reused in the various products. These used solvents are defined by three distinct contaminants, resin strip solvents (a byproduct), resin wash solvents, and pigmented wash solvents. These solvents, which exhibit the same characteristics as raw materials, have been stored in and processed through the 14 tanks for treatment purposes. The resin strip solvents are

generally saved and/or used as needed for their high B.t.u. value in the plant's 3 steam generating packaged boilers. The resin wash solvents are also used for fuel value or processed through the Thin Film Evaporater and reused. The pigmented wash solvents are always processed through the Thin Film Evaporater for reuse as washes for pigmented products. The still bottoms from the Thin Film Evaporator are disposed of in drums as Hazardous Waste at an off site incinerator.

The intent of this closure is to replace the existing 14 hazardous waste tanks with 3 tanks which meet the Secondary Containment requirements, and to replace the handling of still bottoms in drums with bulk handling operations.

B. Applicable Regulations

This plan complies with the provisions of 40 CFR Part 264, Sub-parts G, H, and J.

II. DESCRIPTION OF CLOSURE ACTIVITIES

A. Purpose

The following document presents a plan and outlines the necessary steps required to close 14 (Tanks #1 through #13, and Tank #15) out of the existing 15 RCRA Hazardous Waste Storage Tanks at the E. I. du Pont de Nemours & Co., Inc. paint and polymer manufacturing facility in Toledo, Ohio. Included are plans for removal and disposal of all materials remaining in the 14 tanks, and cleaning and decontamination of all surfaces and tanks. The 14 tanks taken out of Hazardous Waste service are being replaced with 3 newly installed tanks that meet the Secondary Containment requirements specified in 40 CFR Subpart J Section 264.193, and OAC 3745-66-93(A).

B. Decontamination

For the partial closure of the tanks, all of which are bottom unloading, draining the tanks and decontamination will remove any sludge from the bottom of the tanks. Each tank, supporting pipes, and auxiliary equipment will be further decontaminated as follows:

(1) Initial solvent rinsing until visual evidence of contamination is removed.

(2) A hot water flush with detergent cleaning solution using high pressure spray to remove any residue.

(3) Triple rinsing with high pressure clean water.

(4) The tanks will be visually inspected to determine if any residual contaminants remain. If contamination is still evident, the tanks will be rinsed again using the high pressure clean water until clean.

(5) The concrete floors under tank #1 through tank #12, and tank #15 will be cleaned if needed using detergent/water mixture and hard bristle brush. If additional cleaning is required, a high pressure water spray will be used.

(6) The earthern dike and grounds around and under tank #13 will be sampled and tested to determine possible contamination. Representative soil samples from the diked area and appropriate background locations will be analyzed for pH or corrosivity, ignitability, E.P. Toxicity for lead, MEK, acetone, and toluene using the appropriate methods outlined in SW-846, "Test Methods for Evaluating Solid Waste- Physical/Chemical Methods, 3rd Edition". If the samples from the diked area do not show contamination above background levels, the closure shall be deemed to have met the requirements of 40 CFR 264.197(a).

If the samples from the diked area indicate contamination is still present, additional soil will be removed, or E. I. du Pont de Nemours & Co., Inc. will submit a post closure plan per 40 CFR 264.197(b).

(7) All cleaning solutions shall be collected into a tanker and shipped under a hazardous waste manifest to Ross Incineration Services for disposal. The work to empty out and rinse/flush the tanks will be done by plant personnel. Initial concrete floor cleaning will also be done by plant personnel. If the high pressure water cleaning is needed, a local firm will be contracted to perform these services.

(8) Soil sampling and testing for tank #13 will also be contracted out to a local approved environmental services firm, as well as any remedial action at tank #13.

C. Dismantling

Of the 14 tanks being closed, some are to be physically removed while others are to be converted back to process purposes.

(1) Tank #1, tanks #9 through #12, and tank #15 are to be physically dismantled and sold for scrap.

(2) Tanks #2 txrough #8 are to cleaned and decontaminated of all hazardous waste and put back into manufacturing service.

III. SCHEDULE OF CLOSURE

A. The schedule for the partial closure of the tanks identified above will begin approximately 45 days after this Notice and Plan is filed with the USEPA and OEPA, or sooner, if approval can be obtained. The time frame for the closure steps is therefore referenced to this date ("A").

B. The steps for the planned partial closure are:

Time	Step
1. June, 1989	Submission of Closure Plan and Notice to USEPA and OEPA.
2. "A" plus 45 days	USEPA and OEPA must have approved or rejected (264.112).
3. "A" plus 50 days	Start closure of the 14 tanks.
4. "A" plus 60 days	Final wastes removed from all tanks.
5. "A" plus 75 days	Determine if closure can be complete in 75 days; if yes, arrange for dismantling of equipment, removal of wastes, engineering support if needed, etc.
6. "A" plus 90 days	Flush and decontaminate all tanks. Fluids and residues disposed offsite.
7. "A" plus 90 days	Collect soil samples from tank #13 area and submit for analysis.
8. "A" plus 4 months	Inspect tanks for any remaining residues.
9. "A" plus 135 days	Remove and dispose, if necessary, any

	contaminated soil from tank #13 area.
10. "A" plus 5 months	Verify all actions as prescribed.
11. "A" plus 6 months	Certify closure of each tank, and submit certification and reports to USEPA and OEPA.

IV. CERTIFICATION

The closure activities outlined in this plan will be inspected and certified by an independent, registered, professional, engineer from Midwest Environmental Consultants in Toledo, Ohio. In addition, Mr. Samuel J. Bright, the Toledo Plant Manager will also certify closure activities. Each certification shall be worded in accordance to the requirements of 40 CFR 264.115.

V. COST ESTIMATES and ESTIMATE OF MAXIMUM INVENTORY OF HAZARDOUS WASTE

Attachment II table shows the current maximum costs and maximum hazardous waste inventory. The costs are calculated under the assumption that all closure work is to be done by outside contract personnel.

VI. FINANCIAL ASSURANCE MECHANISM

E. I. du Pont de Nemours & Co., Inc. guarantees the costs of closure for the RCRA permitted facility described in this partial closure plan in accordance with the requirements of 40 CFR 264.143 and OAC 3745-66-43. A copy of this financial demonstration and corporate guarantee is provided as Attachment III.

VII. LIABILITY REQUIREMENTS

E. I. du Pont de Nemours & Co., Inc. maintains liability coverage for sudden accidental occurrences in the amount of $1 million per occurrence with an annual aggregate of at least $2 million, exclusive of legal defense costs. E. I. du Pont de Nemours & Co., Inc. chooses to demonstrate this coverage as specified by 40 CFR 264.143 and OAC 3645-66-43. A copy of this financial demonstration and corporate guarantee is provided as Attachment III.

E.I.DUPONT DE...MOURS & CO.INC.
TOLEDO FPD PLANT;TOLEDO OHIO
COST OF CLOSURE ESTIMATE.
DATE CALCULATED: 3-04-91

1

NAME OR # OF H.W. ACTIVITY	MAX. % OF EA.H.W.	WCF#	WASTE DESCRIPTION	1.106 OUTSIDE LABOR COST/HR	OUTSIDE HOURS REQ'D.	TOT LBR $	MAX. NO.DRS STORED	DRS FOR DEC'TION MTRLS	CONTRACT DISPOSAL COST/DR.	TOTAL DISPSL $	TRANSP $/DRUM	DRUM COST	TOTAL TRANSP $	DECONTA-MINATION COST	DISPOSAL FACILITY	1991 TOTAL $ OF EA. ACTI'TY CLOSURE
HW DRUM PAD	3.80%	15	MONOMERS	$45.00	19.342	$962.65	38.684	0	$277.00	$12,338.24	$8.00	$0.00	$342.28	$32.09	R.ROSS & SONS	$13,675.26
HW DRUM PAD	6.30%	7A	An DRUMS	$45.00	32.067	$1,595.97	64.134	0	$111.00	$8,196.97	$8.00	$0.00	$567.46	$53.20	R.ROSS & SONS	$10,413.60
HW DRUM PAD	5.10%	17A	ACID DRUMS	$45.00	25.959	$1,291.98	51.918	0	$121.00	$7,233.45	$8.00	$0.00	$459.37	$43.07	R.ROSS & SONS	$9,027.87
HW DRUM PAD	6.30%	18A	GLYCIDYL DRUMS	$45.00	32.067	$1,595.97	64.134	0	$104.00	$7,680.05	$8.00	$0.00	$567.46	$53.20	R.ROSS & SONS	$9,896.68
HW DRUM PAD	35.40%	13	WASTE PAINT	$45.00	180.18	$8,967.86	360.37	0	$94.00	$39,005.07	$8.00	$0.00	$3,188.57	$298.93	R.ROSS & SONS	$51,460.43
HW DRUM PAD	0.00%	12	S.R.SLUDGE	$45.00	0	$0.00	0	0	$80.00	$0.00	$8.00	$0.00	$0.00	$0.00	R.ROSS & SONS	$0.00
HW DRUM PAD	8.90%	17	CONTM'TD MRTLS	$45.00	45.301	$2,254.63	90.602	0	$180.00	$18,778.13	$8.00	$0.00	$801.65	$75.15	R.ROSS & SONS	$21,909.57
HW DRUM PAD	29.10%	9	WASTE RESIN	$45.00	148.11	$7,371.88	296.23	0	$77.00	$26,264.77	$8.00	$0.00	$2,621.11	$245.73	R.ROSS & SONS	$36,503.50
HW DRUM PAD	1.30%	5A	CONTMNTD DOW	$45.00	6.617	$329.33	13.234	0	$110.00	$1,676.20	$8.00	$0.00	$117.09	$10.98	R.ROSS & SONS	$2,133.60
HW DRUM PAD	1.30%	3	PIGMENT DUST	$45.00	6.617	$329.33	13.234	0	$185.00	$2,819.06	$8.00	$0.00	$117.09	$10.98	CHEM.WASTE	$3,276.46
HW DRUM PAD	2.50%	15	OLD INSULATION	$45.00	12.725	$633.32	25.45	0	$112.00	$3,282.07	11.87	$0.00	$334.11	$21.11	CHEM.WASTE	$4,270.62
	MAX GALS												H.W.PAD CLOSURE SUB-TOTAL			$162,567.58
TANK #1-A1	700	16	WASH SOLVENT	$45.00	6.3636	$316.72	13	1.13	$26.00	$414.85	$6.60	$23.75	$465.15	$10.56	CHEM.WASTE	$1,207.28
TANK #2-G1	0	16	WASH SOLVENT	$45.00	0	$0.00	0	0	$26.00	$0.00	$6.60	$23.75	$0.00	$0.00	CHEM.WASTE	$0.00
TANK #3-G1	0	16	WASH SOLVENT	$45.00	0	$0.00	0	0	$26.00	$0.00	$6.60	$23.75	$0.00	$0.00	CHEM.WASTE	$0.00
TANK #4-G1	0	16	WASH SOLVENT	$45.00	0	$0.00	0	0	$26.00	$0.00	$6.60	$23.75	$0.00	$0.00	CHEM.WASTE	$0.00
TANK #5-G1	0	16	WASH SOLVENT	$45.00	0	$0.00	0	0	$26.00	$0.00	$6.60	$23.75	$0.00	$0.00	CHEM.WASTE	$0.00
TANK #6-G1	0	16	WASH SOLVENT	$45.00	0	$0.00	0	0	$26.00	$0.00	$6.60	$23.75	$0.00	$0.00	CHEM.WASTE	$0.00
TANK #7-G1	0	16	WASH SOLVENT	$45.00	0	$0.00	0	0	$26.00	$0.00	$6.60	$23.75	$0.00	$0.00	CHEM.WASTE	$0.00
TANK #8-G1	0	16	WASH SOLVENT	$45.00	0	$0.00	0	0	$26.00	$0.00	$6.60	$23.75	$0.00	$0.00	CHEM.WASTE	$0.00
TANK #9-LV	0	16	WASH SOLVENT	$45.00	0	$0.00	0	0	$26.00	$0.00	$6.60	$23.75	$0.00	$0.00	CHEM.WASTE	$0.00
TANK #10-LV	0	16	WASH SOLVENT	$45.00	0	$0.00	0	0	$26.00	$0.00	$6.60	$23.75	$0.00	$0.00	CHEM.WASTE	$0.00
TANK #11-SR	0	16	WASH SOLVENT	$45.00	0	$0.00	0	0	$26.00	$0.00	$6.60	$23.75	$0.00	$0.00	CHEM.WASTE	$0.00
TANK #12-SR	0	16	WASH SOLVENT	$45.00	0	$0.00	0	0	$26.00	$0.00	$6.60	$23.75	$0.00	$0.00	CHEM.WASTE	$0.00
TANK #13-BH	3000	16	WASH SOLVENT	$45.00	27.272	$1,357.36	55	1.13	$26.00	$1,666.78	$6.60	$23.75	$1,868.86	$45.25	CHEM.WASTE	$4,938.26
TANK #14-TF	10000	16	WASH SOLVENT	$45.00	90.909	$4,524.55	182	1.13	$26.00	$5,477.01	$6.60	$23.75	$6,141.04	$150.82	CHEM.WASTE	$16,293.41
TANK #15-LV	0	16	WASH SOLVENT	$45.00	0	$0.00	0	0	$26.00	$0.00	$6.60	$23.75	$0.00	$0.00	CHEM.WASTE	$0.00
TANK #16-TF	15000	16	WASH SOLVENT	$45.00	136.36	$6,786.82	273	2.26	$9.00	$2,849.69	$6.60	$23.75	$9,230.53	$226.23	SYSTECH	$19,093.26
TANK #17-TF	15000	12	S.R.SLUDGE	$45.00	136.36	$6,786.82	273	2.26	$9.00	$2,849.69	$6.60	$23.75	$9,230.53	$226.23	SYSTECH	$19,093.26

H.W.TANKS CLOSURE SUB-TOTAL $60,625.46

ESTIMATED TOTAL COST FOR ALL HAZARDOUS WASTE ACTIVITY CLOSURES: $223,193.04

Attach. No. 4 1-4

4-15-91

FF 3434 REV 1-83

DUPONT
ESTABLISHED 1802
E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
TOLEDO, OHIO 43695

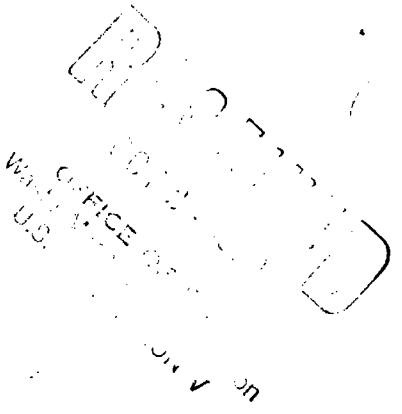
AUTOMOTIVE PRODUCTS DEPARTMENT

OHD 005 041 843

CC: Lisa Pierard, REG V-USEPA
Janet Leite, NWDO-OEPA

September 26, 1990

Thomas Crepeau, Manager
Ohio Environmental Protection Agency
Division of Solid & Hazardous Waste Management
Data Management Section
P.O.Box 1049
Columbus, Ohio 43266-0149



RE: Notice of Deficiency, 08-06-90
Partial Closure Plan, 06-23-89
E. I. du Pont de Nemours & Co.
OHD 005 041 843

Dear Mr. Crepeau:

As directed in Mr. Kitchen's letter of Sep 17, 1990 and the NOD of Aug 6, 1990, enclosed please find 3 copies of our modified Partial Closure Plan.

Sincerely,

Anthony Parchomenko
Environmental Coordinator

OHD-005041843
Issued June 23, 1989

HAZARDOUS WASTE TANK STORAGE FACILITY
PARTIAL CLOSURE PLAN

E. I. du Pont de Nemours & Co.
TOLEDO APD PLANT

1930 Tremainsville Road
Toledo, Ohio 43613
419-478-1211

Modified September 26, 1990

by: Anthony Parchomenko
Environmental Coordinator

DUPONT TOLEDO PLANT

HAZARDOUS WASTE STORAGE FACILITY
PARTIAL CLOSURE PLAN & NOTICE

I. GENERAL

A. Facility Description and Location

1. The E. I. du Pont de Nemours & Co., Inc. facility is located along Tremainsville Road at Upton Avenue and is approximately 17 acres in size, TOPOGRAPHICAL MAP IS ATTACHED. (Attachment I).

   The facility has operated since 1934 for the manufacture of various paints and finishes including high grade automotive paints, clear finishes, and intermediate resins/polymers. Plant operations include the blending of various pigments, resins/polymers, and solvents to generate a salable product meeting the required standards of each independent commercial client.

2. THE PLANT IS SURROUNDED BY A 6 FOOT CHAIN LINK FENCE, ABOVE WHICH ARE 3 ANGLED STRANDS OF BARBED WIRE. ALL GATES ARE LOCKED EXCEPT WHEN UNDER DIRECT VISUAL SURVEILLANCE BY GUARDS OR OTHER PLANT PERSONNEL. THE SITE IS UNDER CONTINUOUS SURVEILLANCE 24-HOURS A DAY, 7 DAYS A WEEK BY PLANT GUARDS USING WALKING TOURS AND ELECTRONIC EQUIPMENT.

   "NO SMOKING" SIGNS ARE APPROPRIATELY POSTED THROUGHOUT

THE PLANT, AND THE PERIMETER FENCE IS APPROPRIATELY POSTED WITH "DANGER-UNAUTHORIZED PERSONNEL KEEP OUT". IT IS THE INTENT OF E.I.DUPONT DE NEMOURS & CO. TO OPERATE THIS FACILITY AS LONG AS FEASIBLE. BARRING ANY UNFORESEEN CIRCUMSTANCES, CLOSURE OF THIS ENTIRE FACILITY IS NOT EXPECTED BEFORE THE YEAR 2010.

As a result of these operations, solvents contaminated with pigments and polymer solids are generated which cannot be reused in the various products. These used solvents are defined by three distinct contaminants, resin strip solvents (a byproduct), resin wash solvents, and pigmented wash solvents. These solvents, which exhibit the same characteristics as raw materials, have been stored in and processed through the 14 tanks for treatment purposes. The resin strip solvents are generally saved and/or used as needed for their high B.t.u. value in the plant's 3 steam generating packaged boilers. The resin wash solvents are also used for fuel value or processed through the Thin Film Evaporator and reused. The pigmented wash solvents are always processed through the Thin Film Evaporator for reuse as washes for pigmented products. The still bottoms from the Thin Film Evaporator are disposed of in BULK OR drums as Hazardous Waste at an off site incinerator.

3. PRESENTLY, THE SITE HAS IN OPERATION THE FOLLOWING

HAZARDOUS WASTE MANAGEMENT UNITS:

a. TANK #1, EXISTING FILLING FLOOR PIGMENTED DIRTY WASH SOLVENT ACCUMULATION TANK (D001, D005, D007, D008, D018, D026, D035, F003, F005).

b. TANKS #2 THROUGH #8, FORMERLY RESIN DIRTY WASH SOLVENT ACCUMULATION AND TRANSFER TANKS TO BOILER FEED TANK. OUT OF SERVICE.

c. TANKS #9, #10, AND #15, FORMERLY PIGMENTED DIRTY WASH SOLVENT HOLD AND TRANSFER TANKS TO SOLVENT RECOVERY. OUT OF SERVICE.

d. TANKS #11 AND #12, FORMERLY PIGMENTED DIRTY WASH SOLVENT FEED TANKS TO SOLVENT RECOVERY. OUT OF SERVICE.

e. TANK #13, FORMERLY RESIN DIRTY WASH SOLVENT FEED TANK TO BOILERS. OUT OF SERVICE.

f. TANK #14, EXISTING PIGMENTED DIRTY WASH SOLVENT FEED TANK TO SOLVENT RECOVERY (D001, D005, D007, D008, D018, D026, D035, F003, F005).

g. TANK #W10, EXISTING 90 DAY RESIN DIRTY WASH SOLVENT FEED TANK TO BOILERS (D001, D018, D035, F003, F005).

h. TANK #W11, EXISTING 90 DAY STILL BOTTOMS ACCUMULATION TANK (D001, D005, D007, D008, D018, D026, D035, F003, F005).

i. ROW F (OF FINISHED PRODUCT STORAGE PAD) PERMITTED HAZARDOUS WASTE CONTAINER STORAGE (D001, D005, D007, D008, D018, D026, D035, F003, F005).

j. TANK #L01, EXISTING 90 DAY REMOVABLE, USED PAINT TEST SAMPLES ACCUMULATION TANK (D001, D005, D007, D008, D018, D026, D035, F003, F005).

k. SATELLITE ACCUMULATION DRUMS, GRINDING 1B3. ACCUMULATION OF SCRAP PAINT AND CHEMICALLY CONTAMINATED SOLIDS (D001, D005, D007, D008, D018, D026, D035, F003, F005).

l. SATELLITE ACCUMULATION DRUMS, GRINDING 1A2. ACCUMULATION OF SCRAP PAINT AND CHEMICALLY CONTAMINATED SOLIDS (D001, D005, D007, D008, D018, D026, D035, F003, F005).

m. SATELLITE ACCUMULATION DRUMS, MIXING 1B2. ACCUMULATION OF SCRAP PAINT AND CHEMICALLY CONTAMINATED SOLIDS (D001, D005, D007, D008, D018, D026, D035, F003, F005).

n. SATELLITE ACCUMULATION DRUMS, FILLING 1B1. ACCUMULATION OF SCRAP PAINT AND CHEMICALLY CONTAMINATED SOLIDS (D001, D005, D007, D008, D018, D026, D035, F003, F005).

o. SATELLITE ACCUMULATION DRUMS, CHEMICAL 1H. ACCUMULATION OF SCRAP RESIN AND CHEMICALLY CONTAMINATED SOLIDS (D001, D018, D026, D035, F003, F005).

p. SATELLITE ACCUMULATION DRUMS, RESIN 1J. ACCUMULATION OF SCRAP RESIN AND CHEMICALLY CONTAMINATED SOLIDS (D001, D018, D026, D035, F003, F005).

q. SATELLITE ACCUMULATION DRUMS, RESIN 1F. ACCUMULATION OF SCRAP RESIN AND CHEMICALLY CONTAMINATED SOLIDS (D001, D018, D026, D035, F003, F005).

4. The intent of this closure is to replace the existing 14 hazardous waste tanks THAT ARE NOT EQUIPPED WITH SECONDARY CONTAINMENT OR LEAK DETECTION SYSTEMS AND GENERALLY ARE NOT ACCEPTABLE FOR THIS TYPE OF RETROFITING. THE 14 TANKS WILL BE REPLACED with 3 tanks which meet the Secondary Containment AND LEAK DETECTION requirements, and to replace the handling of still bottoms in drums with bulk handling operations. LAYOUT SKETCHES OF THE TANKS TO BE REMOVED ARE SHOWN IN ATTACHMENTS IV, IVA, IVB,IVC, IVD, AND IVE.

B. Applicable Regulations

1. THIS SITE IS OPERATING UNDER A NUMBER OF ENVIRONMENTAL PERMITS, AS LISTED:

a. AIR POLLUTION SOURCE PERMIT #0448010058-B001

b. AIR POLLUTION SOURCE PERMIT #0448010058-B002

c. AIR POLLUTION SOURCE PERMIT #0448010058-B003

d. AIR POLLUTION SOURCE PERMIT #0448010058-B004

e. AIR POLLUTION SOURCE PERMIT #0448010058-B005

f. AIR POLLUTION SOURCE PERMIT #0448010058-P001

g. AIR POLLUTION SOURCE PERMIT #0448010058-P002

h. AIR POLLUTION SOURCE PERMIT #0448010058-P003

i. AIR POLLUTION SOURCE PERMIT #0448010058-P004

j. AIR POLLUTION SOURCE PERMIT #0448010058-P005

k. AIR POLLUTION SOURCE PERMIT #0448010058-P006

l. AIR POLLUTION SOURCE PERMIT #0448010058-P007

m. AIR POLLUTION SOURCE PERMIT #0448010058-K001

n. NPDES DISCHARGE PERMIT #2IF00016*DD

o. POTW DISCHARGE PERMIT ORDER #049-87-A

p. AIR POLLUTION SOURCE REGISTRATION #0448010058-G001

THERE IS NO KNOWLEDGE OF A TSCA PERMIT NUMBER.

2. This plan complies with the provisions of 40 CFR Part 264, Sub-parts G, H, and J; AND OAC RULE 3745-66-10.

II. DESCRIPTION OF CLOSURE ACTIVITIES

A. Purpose

The following document presents a plan and outlines the necessary steps required to close 14 (Tanks #1 through #13, and Tank #15) out of the existing 15 RCRA Hazardous Waste Storage Tanks at the E. I. du Pont de Nemours & Co. paint and polymer manufacturing facility in Toledo, Ohio. Included are plans for removal TO OTHER TANKS, OR disposal of all materials remaining in the 14 tanks, and cleaning and decontamination of all surfaces and tanks. THE TANKS THAT ARE TO BE REMOVED AND ANY ANCILLARY EQUIPMENT ARE SHOWN ON ATTACHMENTS IV, IVA, IVB, IVC, IVD, AND IVE. The 14 tanks taken out of Hazardous Waste service are being replaced with 3 newly

installed tanks that meet the Secondary Containment requirements specified in 40 CFR Subpart J Section 264.193, and OAC 3745-66-93(A).

B. Decontamination

For the partial closure of the tanks, all of which are bottom unloading, draining the tanks and decontamination will remove any sludge from the bottom of the tanks. Each tank, supporting pipes, and auxiliary equipment will be further decontaminated as follows:

(1) Initial solvent rinsing until visual evidence of contamination is removed.

(2) A hot water flush with detergent cleaning solution using high pressure spray to remove any residue. IT IS ANTICIPATED THAT NO MORE THAN A TOTAL OF 30 GALLONS OF RESIDUE IS PRESENT IN THE 14 TANKS TO BE CLOSED, BASED ON EXISTING KNOWLEDGE OF PAINT MANUFACTURING.

(3) Triple rinsing with high pressure clean water. AFTER THE TRIPLE RINSE, SAMPLES OF THE RINSEATE SHALL BE ANALYZED FOR CONSTITUENTS OF EACH INDIVIDUAL TANK. IF THE PARAMETERS ARE AT OR BELOW THE CRITERIA SPECIFIED IN B-5 AND THERE IS NO VISUAL RESIDUAL CONTAMINATION, THE TANKS WILL BE CERTIFIED AS CLEAN.

(4) The tanks will be visually inspected to determine if any residual contaminants remain. If

contamination is still evident, the tanks will be rinsed again using the high pressure clean water until clean.

(5) The concrete floors under tank #1 through tank #12, and tank #15 will be cleaned TO REMOVE ANY STAINS. TO CONFIRM THAT THE FLOORS ARE CLEAN, THE RINSEATE(S) SHALL BE ANALYZED FOR THE PARAMETERS OF INTEREST USING THE METHODS AND DETECTION LIMITS AS OUTLINED IN SW-846 - 3RD EDITION. PARAMETERS AT OR BELOW THE CRITERIA SPECIFIED BELOW CAN BE CERTIFIED AS CLEAN.

A. PUBLIC DRINKING WATER MAXIMUM CONTAMINANT LEVEL (MCL) FOR HAZARDOUS WASTE CONSTITUENTS AS PROMULGATED IN 40 CFR 141.11 AND OAC 3745-81-11 FOR INORGANICS AND 40 CFR 141.12 AND OAC 3745-81-12 FOR ORGANICS;

B. IF AN MCL IS NOT AVAILABLE, THEN THE MAXIMUM CONTAMINANT LEVEL GOAL (MCLG) AS PROMULGATED IN 40 CFR 141.50 SHALL BE USED; OR

C. IF NEITHER AN MCL NOR MCLG IS AVAILABLE, 1 MG/L SHALL BE USED.

IF THE MCL OR MCLG IS LESS THAN THE CONTAMINANT'S ANALYTICAL DETECTION LIMIT USING METHODS FOUND IN USEPA PUBLICATION SW-846, THE SW-846 ANALYTICAL DETECTION LIMIT SHALL BE USED AS THE CLEAN STANDARD.

If additional cleaning is required, a high

pressure water spray will be used.

(6) THE ONLY CONTAMINATION OF THE TANK #13 AREA WOULD BE DUE TO POSSIBLE OVERFILLS OR LEAKS FROM THE UNLOADING PUMP AND CONNECTIONS. The grounds around and under tank #13, ATTACHMENT VIE, (ESTIMATED TO BE APPROXIMATELY 400 FEET SQUARE) will be sampled and tested to determine possible contamination. A TOTAL OF 9 SAMPLES WILL BE TAKEN; 4 OF THE SAMPLES FROM THE PERIMETER, 4 SAMPLES FROM WITHIN THE PERIMETER OF THE AREA, AND 2 BACKGROUND SAMPLES IN AN AREA APPROXIMATELY 110 FEET NORTH OF THE AREA. THE Representative soil samples from the diked area and appropriate background locations will be analyzed for pH or corrosivity, ignitability, E.P. Toxicity for lead, MEK, acetone, and toluene using the appropriate methods outlined in SW-846, "Test Methods for Evaluating Solid Waste-Physical/Chemical Methods, 3rd Edition".
If the samples from TANK #13 area do not show contamination above background levels, the closure shall be deemed to have met the requirements of 40 CFR 264.197(a).

If the samples from WITHIN the area indicate THAT contamination is present ABOVE THE BACKGROUND LEVELS, AN APPROPRIATE AMOUNT OF soil will be removed. BASED ON KNOWLEDGE OF TANK #13 OPERATIONS, IT IS ESTIMATED THAT APPROXIMATELY 40

YARDS OF SOIL MIGHT HAVE TO BE REMOVED AND DISPOSED OFF. THE SOIL TESTING AND REMOVAL, IF NEEDED, WILL BE CONTRACTED TO AN INDEPENDENT ENGINEERING FIRM. ANY REMOVAL OF SOIL IS NOT FORESEEN AS A PROBLEM. THE AREA IS OUTSIDE, WELL EXPOSED TO GOOD AIR MOVEMENT, AND IS EASILY ACCESSIBLE TO HEAVY EQUIPMENT. ANY SOIL TO BE REMOVED WILL BE DEPOSITED INTO AN APPROPRIATE SIZE DUMPSTER FOR SHIPMENT TO CHEMICAL WASTE MANAGEMENT LANDFILL IN FT.WAYNE, INDIANA, APPROXIMATELY 150 MILES FROM THIS FACILITY.

(7) All cleaning solutions (NO BTU VALUE) shall be collected into a tanker OR DRUMS and shipped under a hazardous waste manifest IF APPROPRIATE, to Ross Incineration Services for disposal. ANY STORED WASTES FROM THE 14 TANKS (HI BTU VALUE) THAT REQUIRE DISPOSAL WILL BE COLLECTED INTO TANKERS OR DRUMS AND SHIPPED UNDER A HAZARDOUS WASTE MANIFEST TO LAFARGE SYSTECH FOR FUELS BLENDING.

The work to empty out and rinse/flush the tanks will be done by plant personnel. Initial concrete floor cleaning will also be done by plant personnel.

ALL ASPECTS OF THIS CLOSURE REGARDING EMPTYING TANKS, CLEANING TANKS AND FLOORS WITH SOLVENT AND OTHER CHEMICALS, AND ANY OTHER TASK INVOLVING USE OF SOLVENTS WILL BE PERFORMED ACCORDING TO DUPONT

LOADING PROCEDURES AND STANDARD PRACTICES. PAGES 13 THROUGH 15 OF OUR MIXER LOADING MANUAL (ATTACHMENT V) COVERS THE SELECTION AND USE OF PERSONAL PROTECTIVE EQUIPMENT.

SINCE OUR HAZARDOUS WASTE IS ACTUALLY PAINT OR PAINT COMPONENTS, HANDLING OF HAZARDOUS WASTE IS COVERED IN OUR STANDARDS. ALL TASKS PERFORMED ON THIS SITE ARE ACCORDING TO PRESCRIBED SAFETY STANDARDS. PERSONAL PROTECTIVE EQUIPMENT USED DURING THIS CLOSURE WILL BE HANDLED SAME AS AT OTHER TIMES. PERSONAL PROTECTIVE EQUIPMENT GENERALLY IS NOT DISCARDED UNLESS IT IS CONTAMINATED WITH PAINT OR OTHER CHEMICALS AND CONNOT BE CLEANED, IN WHICH CASE IT IS SENT OUT AS PART OF OUR "PAINT OR CHEMICALLY CONTAMINATED SOLIDS" WASTE STREAM FOR INCINERATION.

If the high pressure water cleaning is needed, a local firm will be contracted to perform these services.

(8) Soil sampling and testing for tank #13 will also be contracted out to a local approved environmental services firm, as well as any remedial action at tank #13.

C. Dismantling

ALL 14 tanks being closed (TANK #1 - #13, AND #15) WILL be physically DISMANTLED, AND SOLD AS SCRAP.

III. SCHEDULE OF CLOSURE

A. The schedule for the partial closure of the tanks identified above will begin approximately 45 days after this Notice and Plan is filed with the USEPA and OEPA, or sooner, if approval can be obtained. The time frame for the closure steps is therefore referenced to this date ("A").

B. The steps for the planned partial closure are:

Time	Step
1. June, 1989	Submission of Closure Plan and Notice to USEPA and OEPA.
2. "A" plus 90 days	USEPA and OEPA must have approved or rejected (264.112/3745-66-12).
3. "A" plus 90 days	Start closure of the 14 tanks.
4. "A" plus 105 days	Final wastes removed from all tanks.
5. "A" plus 120 days	Determine if closure can be complete in 75 days; if yes, arrange for dismantling of equipment, removal of wastes, engineering support if needed, etc.
6. "A" plus 135 days	Flush and decontaminate all tanks. Fluids and residues disposed offsite.
7. "A" plus 135 days	Collect soil samples from tank #13 area and submit for analysis.
8. "A" plus 5 months	Inspect tanks for any remaining residues.
9. "A" plus 150 days	Remove and dispose, if necessary, any

	contaminated soil from tank #13 area.
10. "A" plus 5 months	Verify all actions as prescribed.
11. "A" plus 6 months	Certify closure of each tank, and submit certification and reports to USEPA and OEPA.

IV. CERTIFICATION

The closure activities outlined in this plan will be inspected and certified by an independent, registered, professional, engineer (Midwest Environmental Consultants in Toledo, Ohio). In addition, Mr. Samuel J. Bright, the Toledo Plant Manager will also certify closure activities. Each certification shall be worded in accordance to the requirements of 40 CFR 264.115/OAC 3745-66-15.

40 CFR 264.115/OAC 3745-66-15 DO NOT SPECIFY INCLUSION OF ANY TESTING AND ANALYSIS, CRITERIA FOR DETERMINING THE ADEQUACY OF THE ANALYSES, SCHEDULE OF INSPECTIONS BY THE INDEPENDENT, REGISTERED PROFESSIONAL ENGINEER, NOR TYPE OF DOCUMENTATION ACQUIRED DURING CLOSURE ACTIVITIES. IT IS EXPECTED THAT ALL TESTING AND ANALYSES OUTLINED IN THIS PARTIAL CLOSURE PLAN, ALL STATED ADEQUACY CRITERIA AS STATED IN THIS CLOSURE PLAN, ALL INSPECTIONS AS REQUIRED AND CONDUCTED BY THE INDEPENDENT, REGISTERED PROFESSIONAL ENGINEER DURING THE CLOSURE PROCESS WILL BE DOCUMENTED AND RETAINED ON SITE FOR A PERIOD OF THREE YEARS.

V. COST ESTIMATES and ESTIMATE OF MAXIMUM INVENTORY OF HAZARDOUS WASTE

Attachment II table shows the current maximum costs and maximum hazardous waste inventory. The costs are calculated under the assumption that all closure work is to be done by outside contract personnel.

VI. FINANCIAL ASSURANCE MECHANISM

E. I. du Pont de Nemours & Co. guarantees the costs of closure for the RCRA permitted facility described in this partial closure plan in accordance with the requirements of 40 CFR 264.143 and OAC 3745-66-43. A copy of this financial demonstration and corporate guarantee is provided as Attachment VI.

VII. LIABILITY REQUIREMENTS

E. I. du Pont de Nemours & Co. maintains liability coverage for sudden accidental occurrences in the amount of $1 million per occurrence with an annual aggregate of at least $2 million, exclusive of legal defense costs. E. I. du Pont de Nemours & Co. chooses to demonstrate this coverage as specified by 40 CFR 264.143 and OAC 3645-66-43. A copy of this financial demonstration and corporate guarantee is provided as Attachment VI.

OHD 005 041 843

HARRIS STREET

340.0'

EMPLOYEE PARKING LOT

48x44m16s

600.95'

TREMAINSVILLE ROAD

FITCH ROAD

UPTON AVE.

423.84'

#8 #10 #15

#11 #12

#13

TANK #3 2 - 8 IG ALLEYWAY

#1

LAT. N41°41'45"
LOG. W83°35'21"

STANDARDS USED	LATEST
	REVISION

E.I.DUPONT DE NEMOURS & CO.
TOLEDO PLANT TOLEDO, OHIO

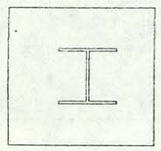
PLANT LAYOUT

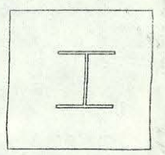
Drawn By: R.L.S	Scale: NONE
Approved By: A.R	Date: 2-29-88
Bldg. No.:	T- 1082
Area:	

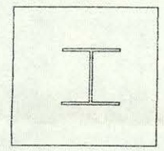
NO.	REVISION	DATE	NO.	REVISION	DATE

ATTACHMENT IV

OHD 005 041 843







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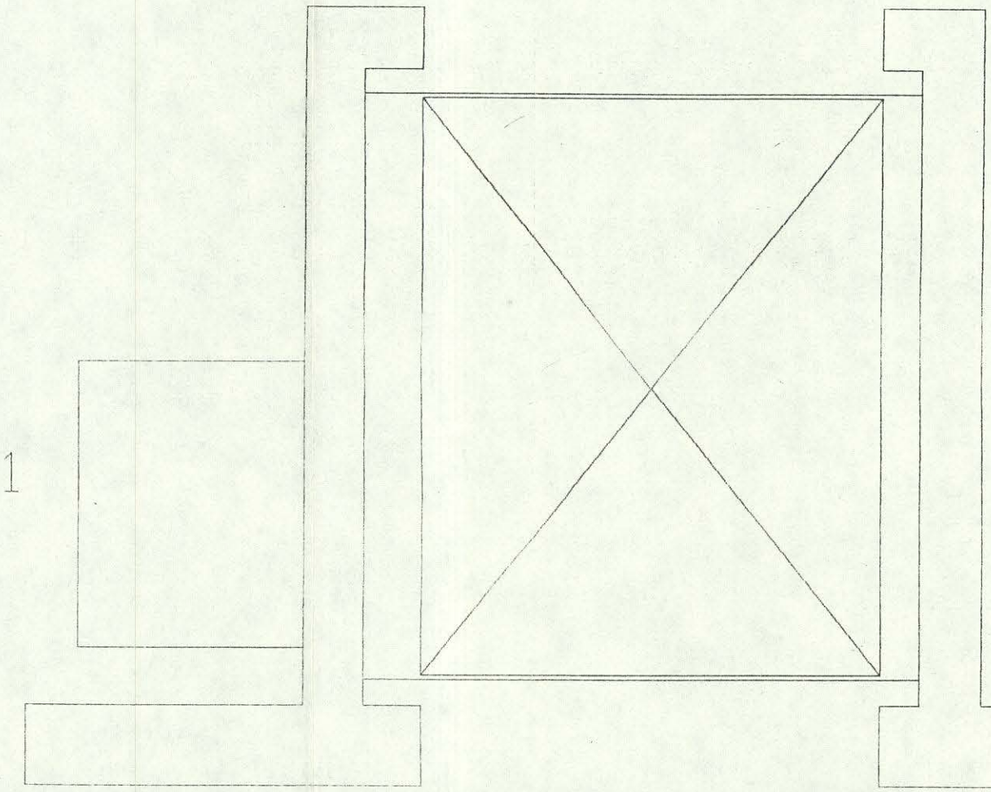
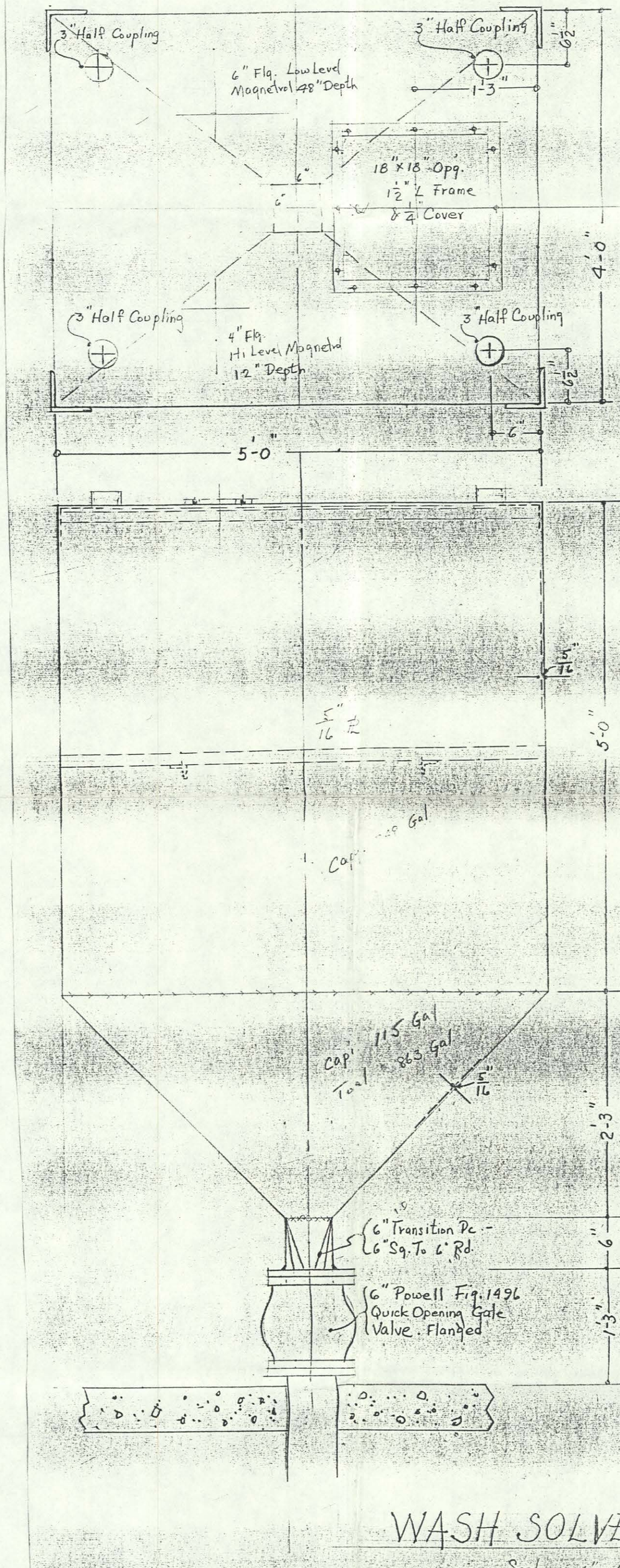


ATTACHMENT IVA

OHD 005 041 843



WASH SOLVENT TANK 4/

Scale - 1" = 1'-0"

Est Copy. 863 Gal.
Est Wt. 2100 #

ATTACHMENT IV A

ATTACHMENT II

MAXIMUM INVENTORY and
COST OF CLOSURE ESTIMATE
E. I. Du PONT de NEMOURS & CO.
TOLEDO APD PLANT

Partial Closure of the Waste Storage Tanks

All costs are based on the following:

* Waste from the tanks (HI BTU VALUE) is drummed out OR PUMPED TO TANKERS and sent to Lafarge Systech Corp., 85 MILES FROM THE SITE, for fuels blending per existing contract.
* COST FOR DECONTAMINATION MATERIALS AND ADDITIONAL DISPOSAL COSTS FOR LOW VALUE BTU MATERIALS ARE SHOWN IN COLUMN 7, AND WILL BE DISPOSED OF AT ROSS INCINERATION SERVICES, GRAFTON, OHIO, ABOUT 85 MILES FROM THIS FACILITY.
* Disposal costs includes transportation and the cost of the drum.
* Labor cost for decontamination by an outside contractor is $35/hour.
* TOTAL NUMBER OF DRUMS REQUIRED, AS SHOWN IN THE FOLLOWING TABLE, INCLUDES 16 DRUMS (880 GALS) FOR THE RINSEATES/DECONTAMINATION LIQUIDS. BASED ON EXPERIENCE IN CLEANING PAINT MANUFACTURING TANKS, THE RINSEATES WILL NOT MEET ANY DEFINITION OF A HAZARDOUS WASTE AND WILL NOT BE ASSIGNED ANY USEPA HAZARDOUS WASTE CODES.

ATTACHMENT II

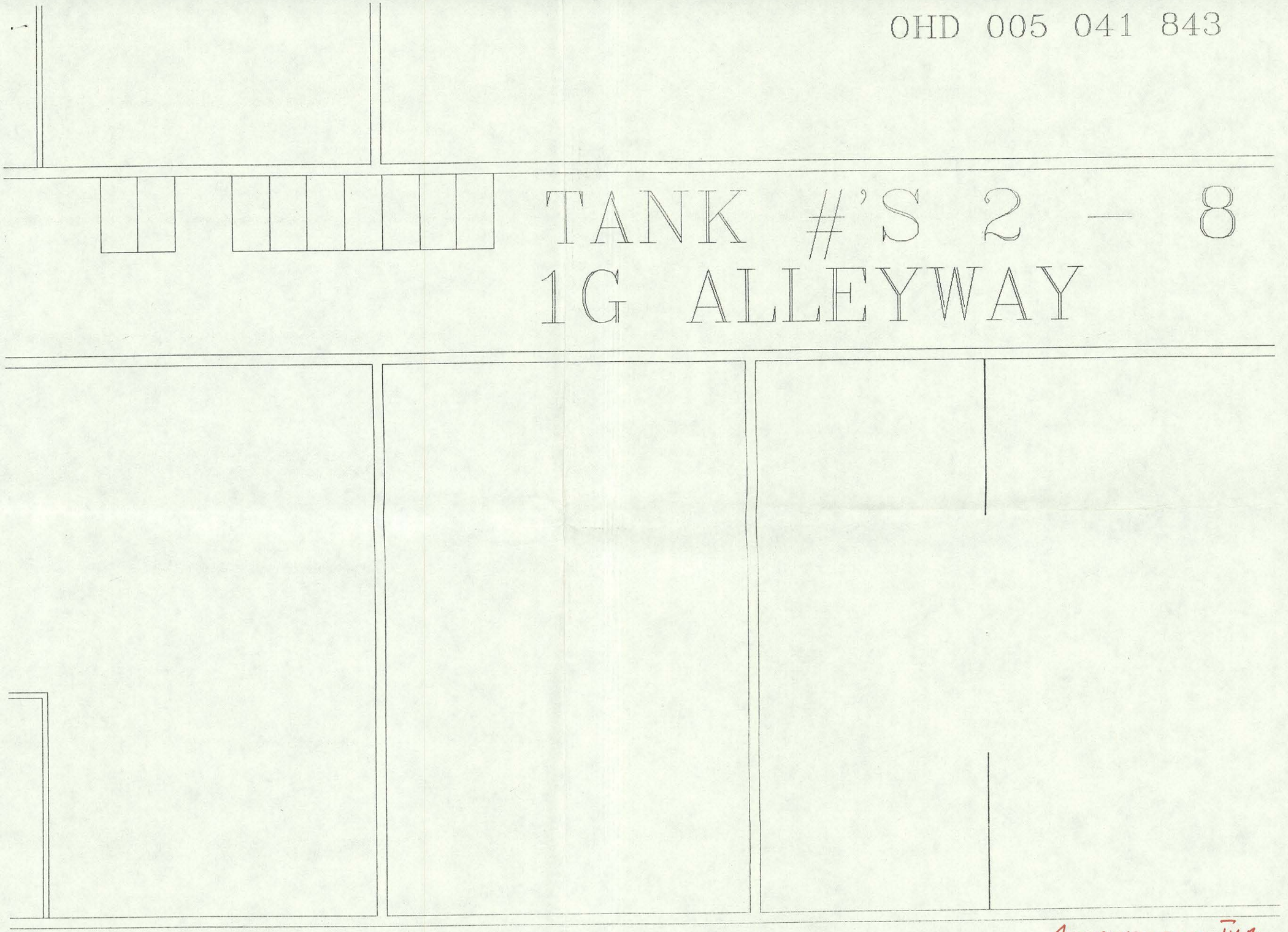
Tank	WCF#	Max PUMPABLE Gals	Hrs Labor Req'd	TOTAL Drums Req'd	Contract Disposal Cost/Dr.	Decon. MTRL & DISPSL Costs	Total
1	16	750	6.25	15	$71.85	$230.71	$1527.21
	WASTE CODES: D001,D005, D007, D008, D018, D026, D035, F003, F005.						
2	16	720	6.0	14	$71.85	$253.47	$1469.37
	WASTE CODES: DOO1, D018, D026, D035, F003, F005.						
3	16	720	6.0	14	$71.85	$253.47	$1469.37
	WASTE CODES: D001, D018, D026, D035, F003, F005.						
4	16	720	6.0	14	$71.85	$253.47	$1469.37
	WASTE CODES: D001, D018, D026, D035, F003, F005.						
5	16	720	6.0	14	$71.85	$253.47	$1469.37
	WASTE CODES: D001, D018, D026, D035, F003, F005.						
6	16	720	6.0	14	$71.85	$253.47	$1469.37
	WASTE CODES: D001, D018, D026, D035, F003, F005.						
7	16	690	5.75	14	$71.85	$204.38	$1411.53
	WASTE CODES: D001, D018, D026, D035, F003, F005.						
8.	16	710	6.0	14	$71.85	$234.19	$1450.09
	WASTE CODES: D001, D018, D026, D035, F003, F005.						
9.	16	1150	9.6	22	$71.85	$381.73	$2298.43
	WASTE CODES: D001, D005, D007, D008, D018, D026, D035, F003, F005.						
10.	16	1200	10.0	23	$71.85	$392.28	$2394.83
	WASTE CODES: D001, D005, D007, D008, D018, D026, D035, F003, F005.						
11	16	860	7.2	17	$71.85	$265.85	$1739.30
	WASTE CODES: D001, D005, D007, D008, D018, D026, D035, F003, F005.						
12	16	860	7.2	17	$71.85	$265.85	$1739.30
	WASTE CODES: D001, D005, D007, D008, D018, D026, D035, F003, F005.						
13	16	3000	25.0	55	$71.85	$1038.53	$5865.28
	WASTE CODES: D001, D018, D026, D035, F003, F005.						

15 16 1000 8.33 20 $71.85 $280.67 $2009.22
WASTE CODES: D001, D005, D007, D008, D018, D026, D035, F003, F005.

Partial tank closure costs:	$27782.04
Contracted cleaning/decontamination costs:	$15000.00
Contracted sampling/testing costs:	$ 9000.00
Contracted soil removal and disposal:	$ 7000.00
Total Partial Closure Cost:	**$58782.04**

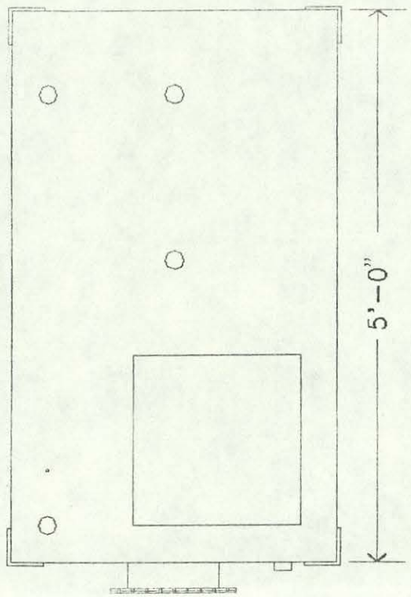
Attachment II

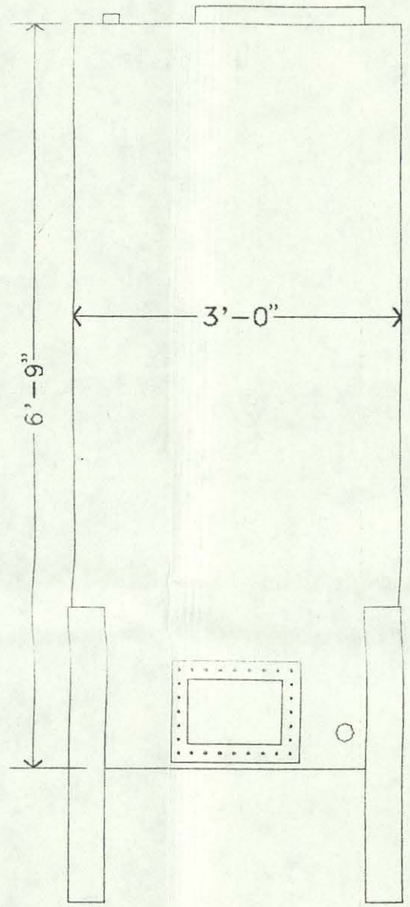
OHD 005 041 843



ATTACHMENT IV B

OHD 005 041 843





TANK NO. 2 THRU 8
IN 1G ALLEYWAY

STANDARDS USED		LATEST
		REVISION

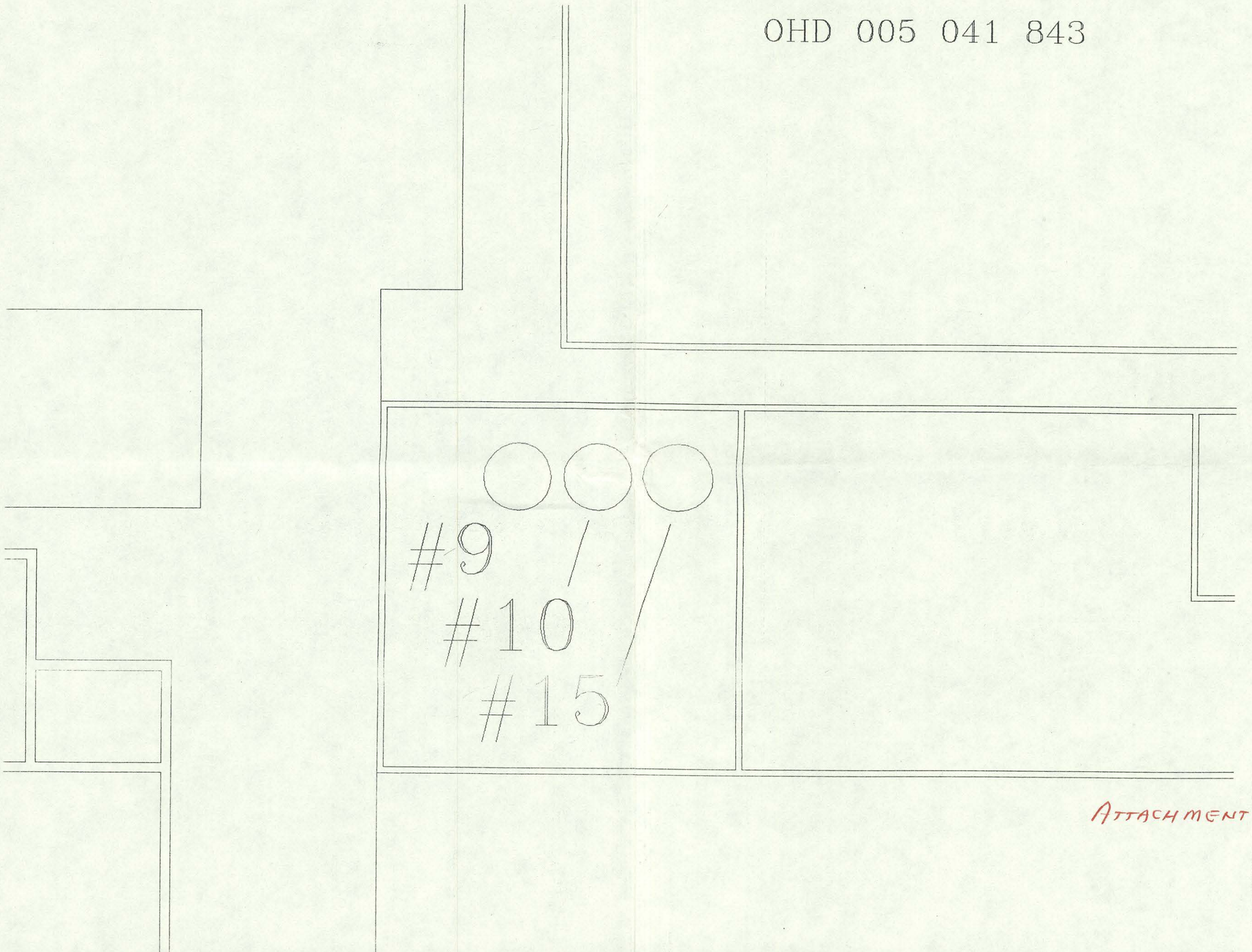
NO.	REVISION	DATE	NO.	REVISION	DATE

E.I.DUPONT DE NEMOURS & CO.
TOLEDO PLANT TOLEDO, OHIO

RESIN TANK
700 GAL

Drawn By: R.L.SILVA	Scale: NO SCALE
Approved By: M.R.PILE	Date: 24-Sep-90
Bldg. No.:	T- EPA-2
Area: RESIN	

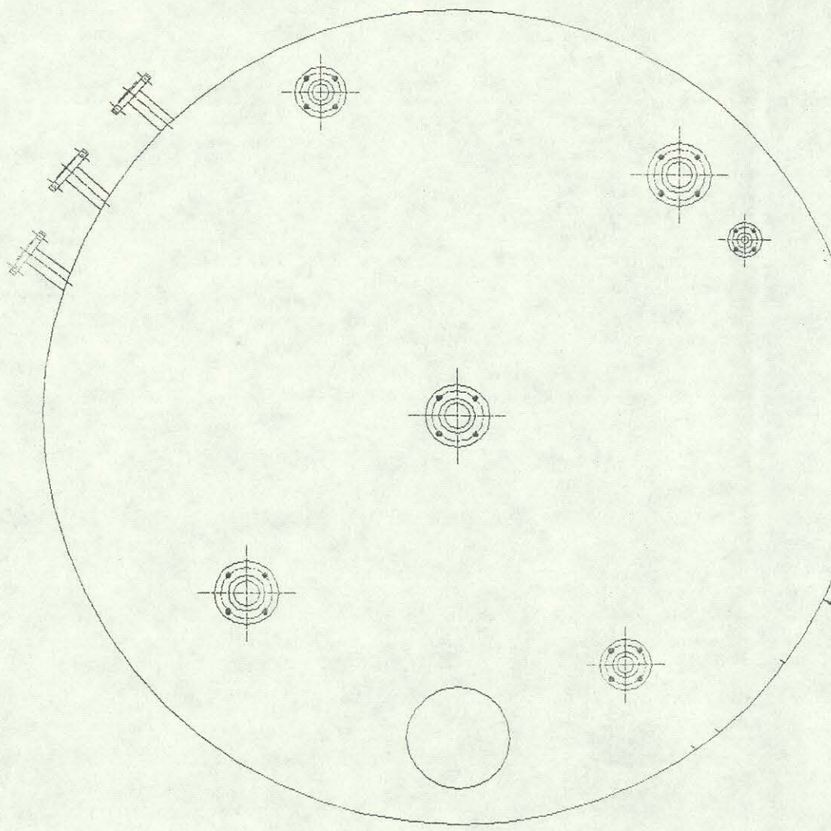
OHD 005 041 843

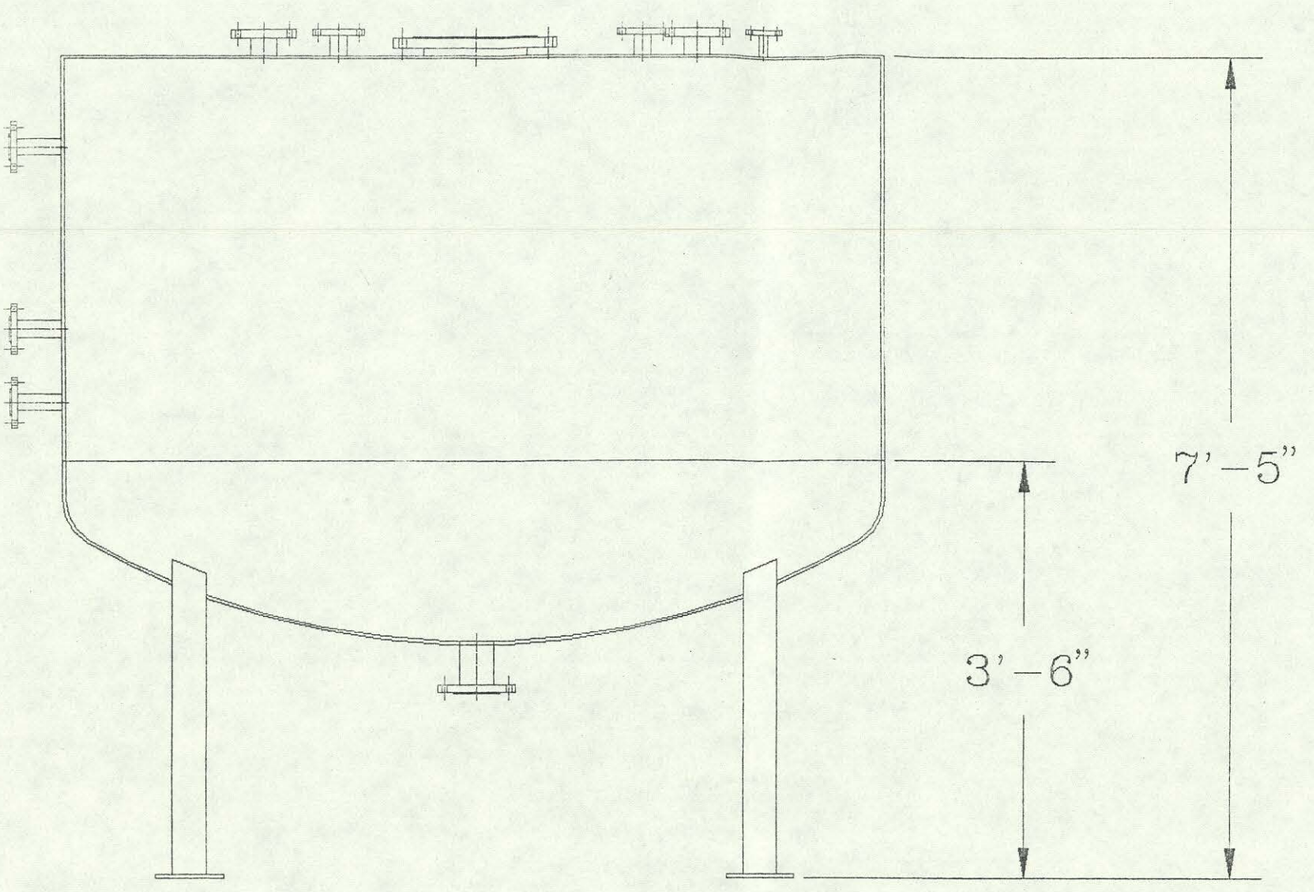


ATTACHMENT IV C

OHD 005 041 843

TANK NO. 9





OHD 005 041 843

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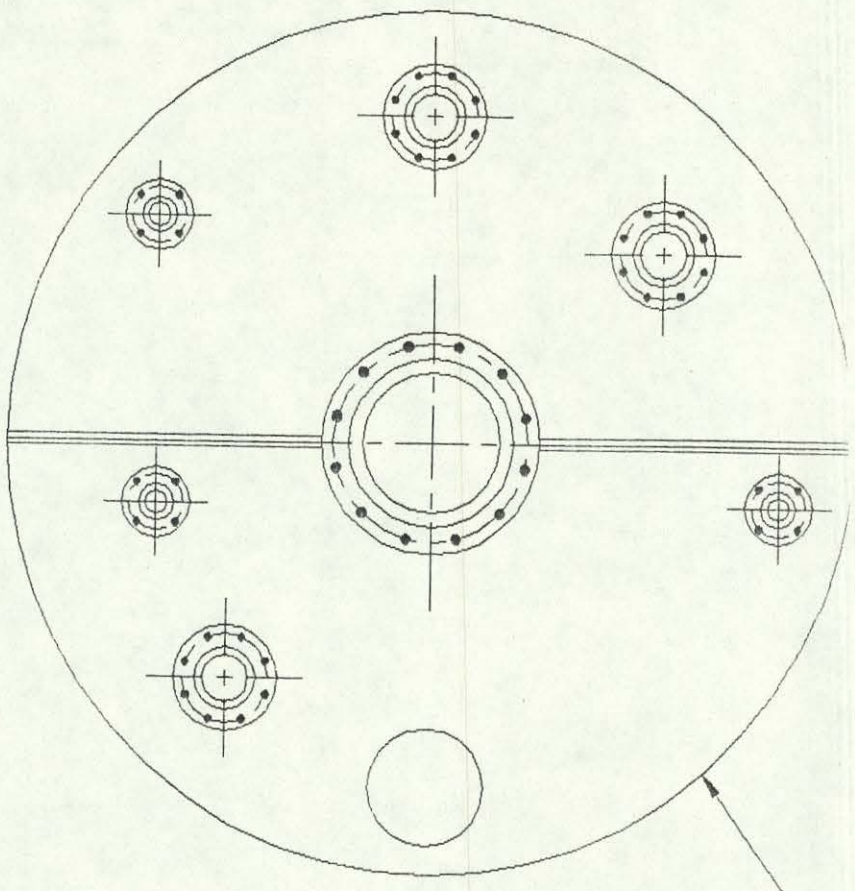
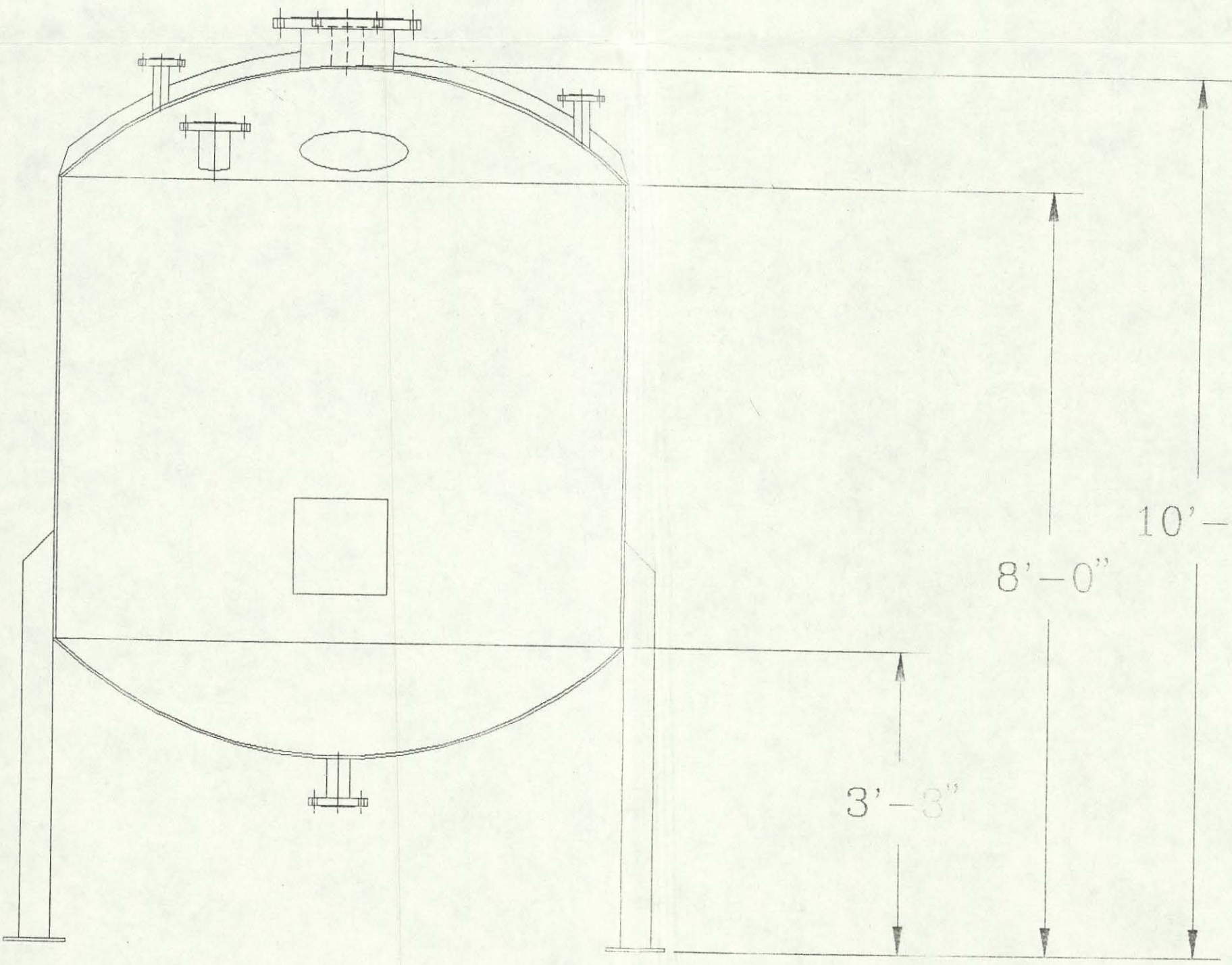
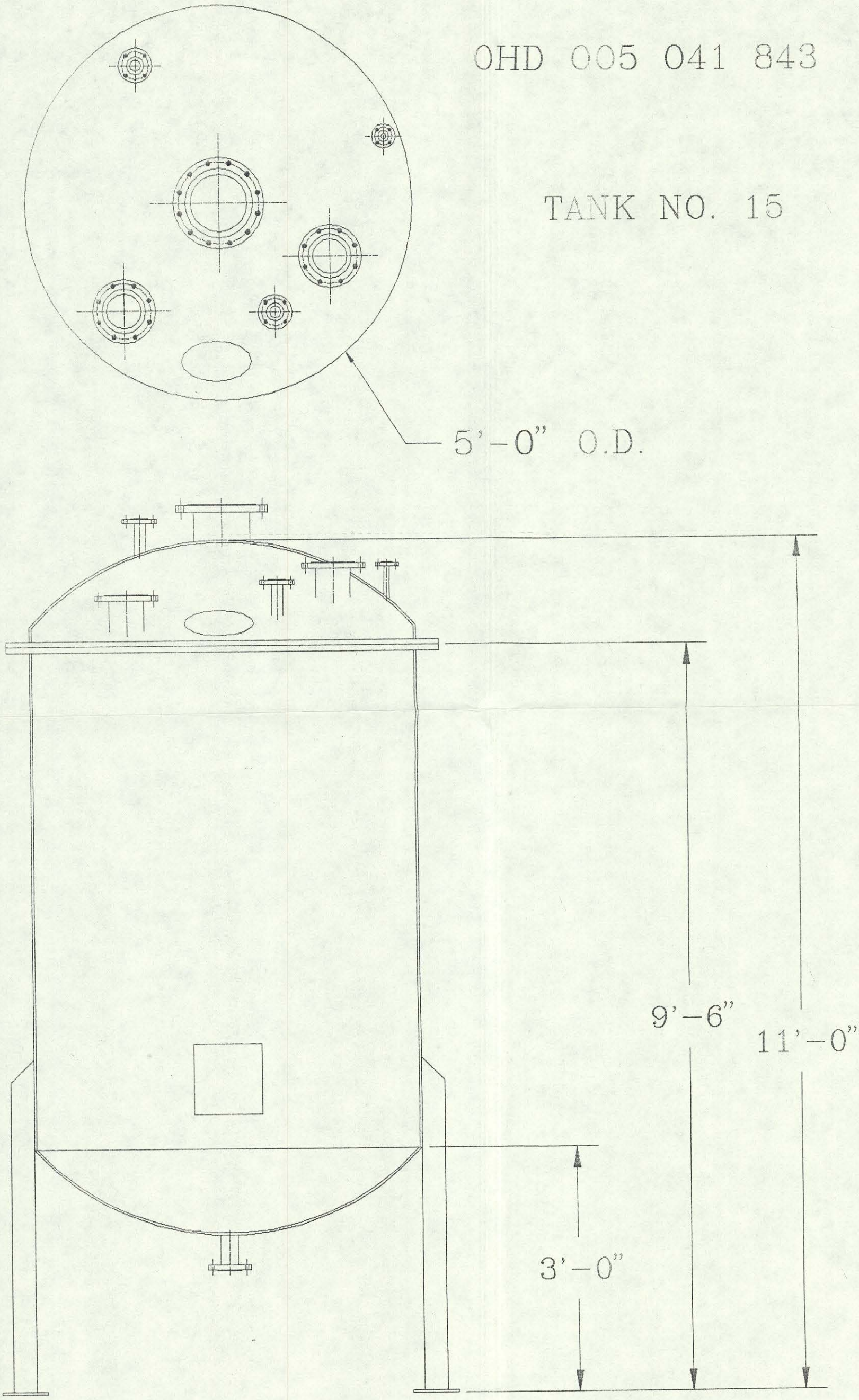




OHD 005 041 843

TANK NO. 15



#15

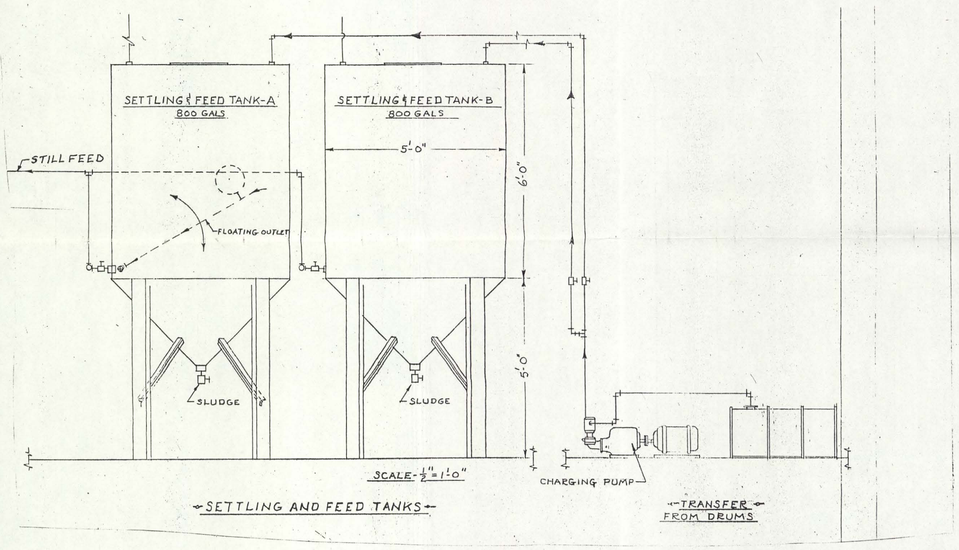
OHD 005 041 843

#11 #12

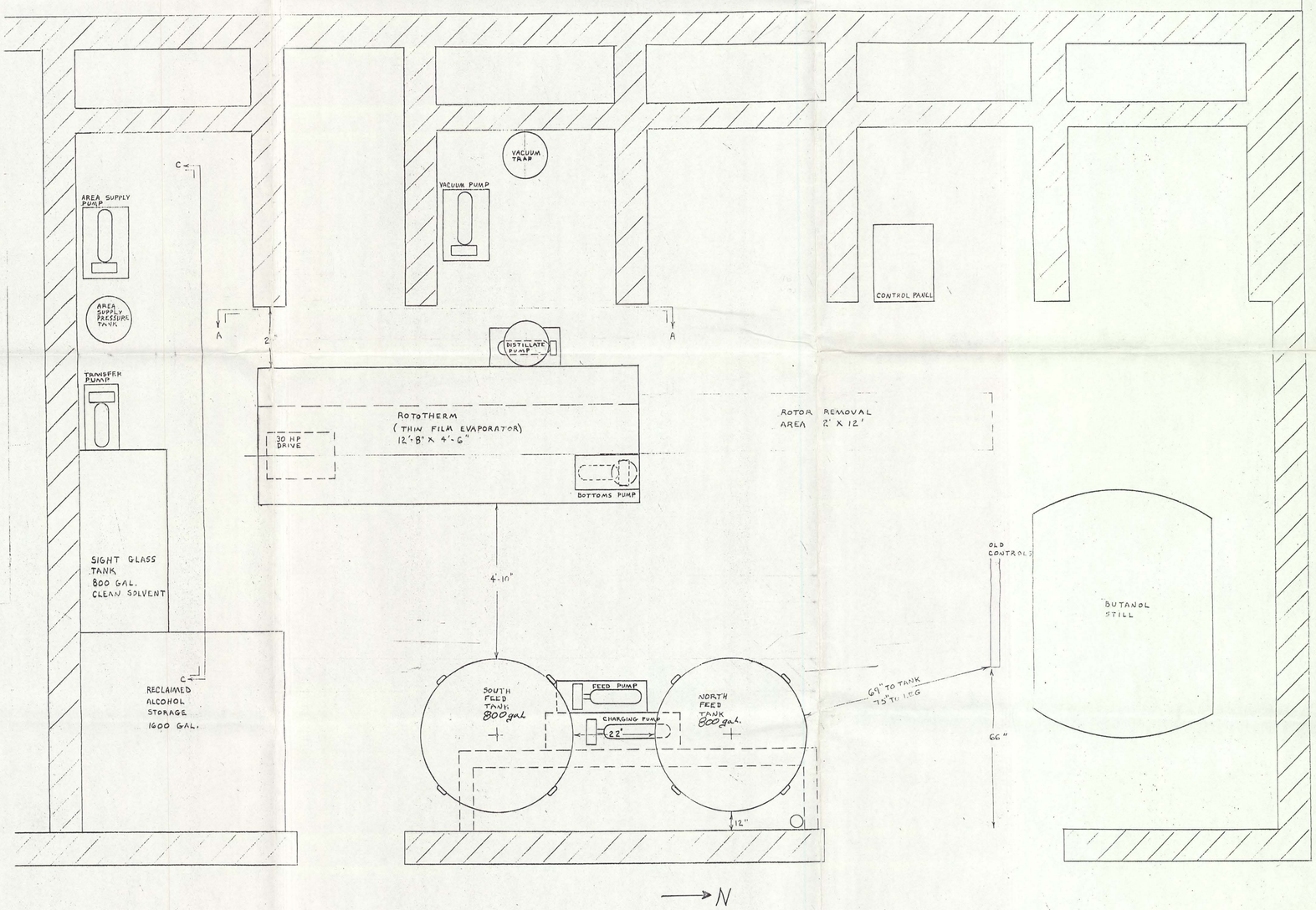
3

ATTACHMENT IV-D

OHD 005 041 843



SETTLING AND FEED TANKS



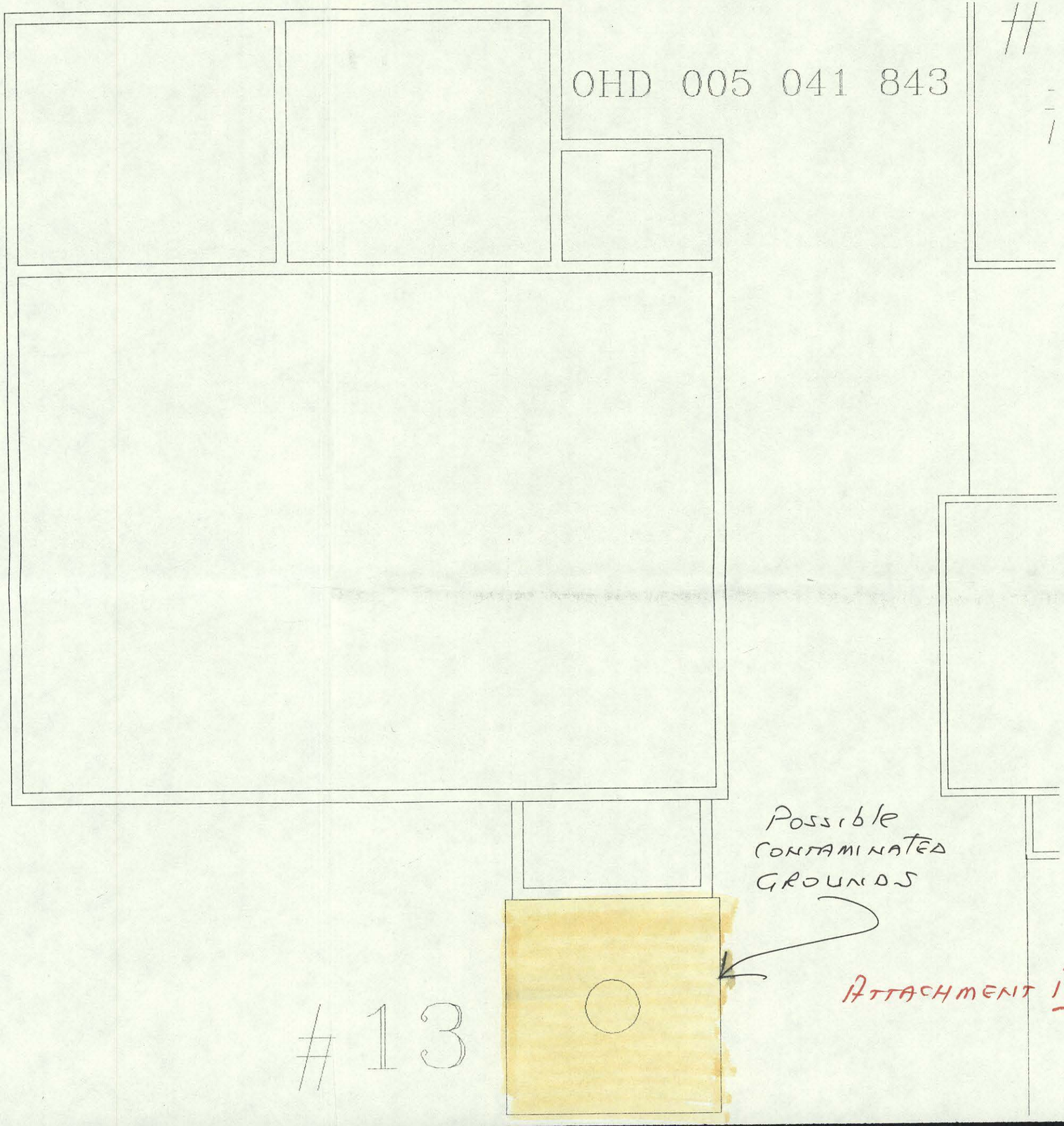
E. I. Du PONT de NEMOURS, INC.		
TOLEDO, OHIO F+F		
SOLVENT RECOVERY BLDG.		
5/12/77	T-769	GAC

OHD 005 041 843

#

-

1

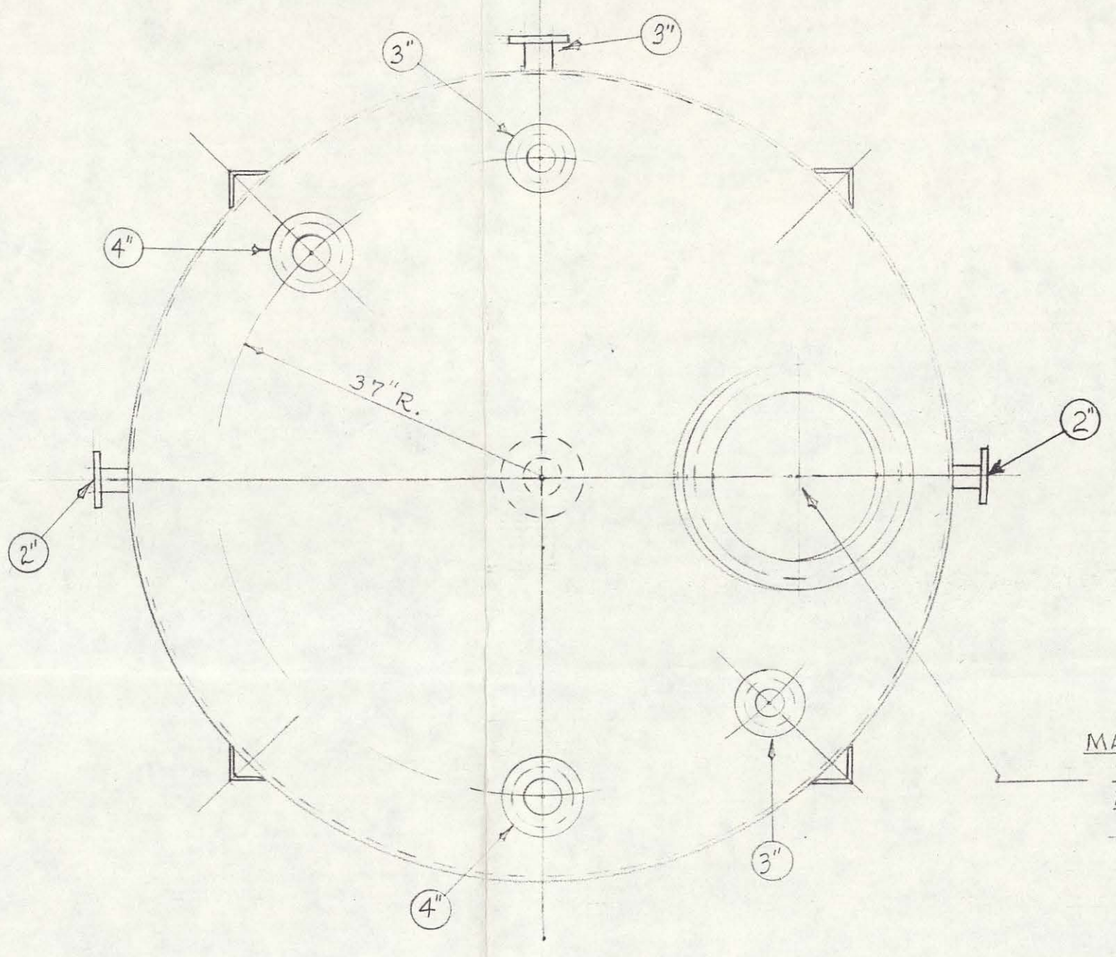


Possible
Contaminated
Grounds

Attachment IVE

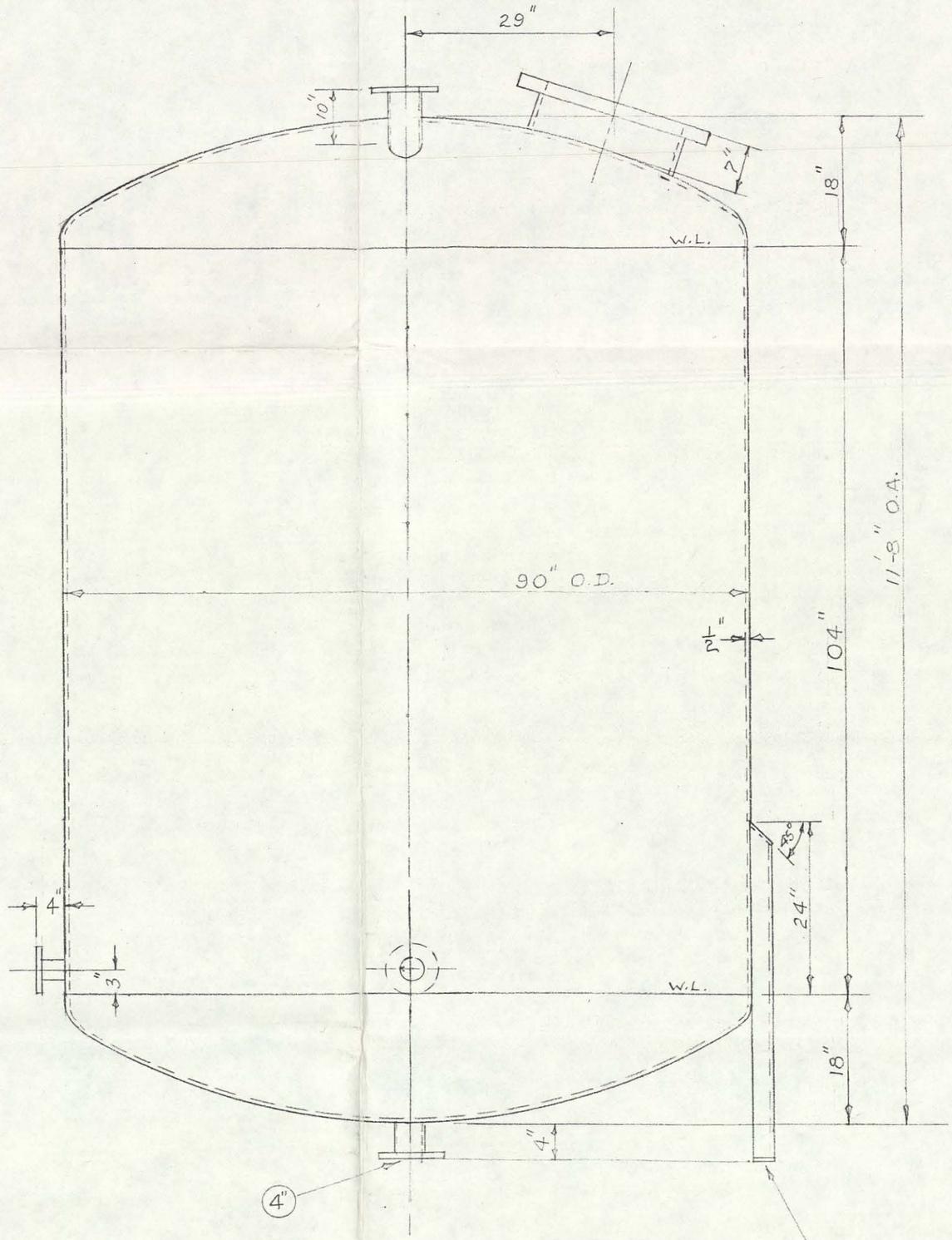
#13

OHD 005 041 843



TOP VIEW

MANHOLE:
26" O.D. FLANGE; 23 1/4" B.C. WITH 20 1 3/16" HOLES; 19 3/8" I.D.; 1 5/16" THICK FLANGE.



SIDE VIEW

NOTES:
CAPY. TO WELD LINE - 3048 GAL.
PURCHASED FROM BREINER EQUIP. CO. ST. LOUIS, MO. ON SC 3963 1-31-75 - USED
WT. APPROX 8,000 LB MT.

(4) 3/8" x 4" x 4" L LEGS @ 90°. CONTINUOUS WELD TO SHELL
(4) 1/2" x 5" x 5" PADS

E. I. DUPONT DE NEMOURS & CO.
TOLEDO PLANT - - TOLEDO, OHIO

3000 GAL. WASTE SOLVENT FEED TANK

DRAWN BY - J. WALL	DATE 2-14-75
CHECKED -	BLDG. NO. 7
APPROVED -	T-735
SCALE - 3/4" = 1'-0"	

ATTACHMENT V

C. PERSONAL PROTECTIVE EQUIPMENT - HIGH RISK FORMULATIONS:

1. Concept:

Personal protective equipment is required during loading of high risk formulations. Care should be taken to review with operators that all documented F&F burn injuries by flash fire have occurred as a result of direct skin exposure to the flash fire. The basic philosophy behind mixer loading personal protective equipment is to minimize skin exposure to flash fire hazards.

Minimum exposed skin requires the use of long sleeve clothing, full trousers, approved facial protection and gloves.

2. Body Protection:

a. Clothing:

Recommended options exist on clothing fabric choice provided the fabric is at least 3.5 oz./yd^2 weight and does not melt on exposure to flash fires. Approved protective clothing fabrics for mixer loading operators includes:

Nomostat*, Nomex, Cotton, Cotton/Darcron mixture containing at least 35% cotton and flame retardant cotton such as FireStop* treated cotton fabrics.

Any synthetic that will melt at flash fire temperatures such as Tyvek* Acetate, Nylon*, Dacron*, etc. is not approved.

Where a required outer garment contains a meltable fabric viz., Tyvek* coveralls used in chromate loading, an undergarment of an approved flash fire protective fabric must be used.

b. Nomex* - Static Potential:

Nomex* is susceptible to build-up of static charge. The static charge problem can be prevented in one of the two following ways (19).

- Use of Avitex DN* anti-static agent in the final rinse during laundering of conventional Nomex*.
- Use of Nomostat* fabric (a weave of 99% Nomex*, 1% stainless steel fibers) for construction of protective garment.

ATTACHMENT V

3. Hand Protection:

Gloves provide protection for the hands. As with clothing, 100% synthetic gloves such as rubber, polyethylene, or latex may melt in a flash fire situation and should not be worn when loading high risk formulations. Gloves which are made of cotton, leather, or cotton coated with a synthetic polymer will adequately protect the hands. Examples of the coated gloves are the Edmont Wilson #9-924 Black "Neox" or #8-352 "Scorpio". If 100% synthetic gloves must be worn due to 'S' code requirements, cotton gloves must be worn under them.

4. Eye and Face Protection:

a. Approved Equipment:

Approved face protection includes:

- o Properly worn nitrometer type masks with and without respirators.
- o Approved splash goggles with respirators
- o Full face respirators or approved hoods
- o Splash goggles without any other frontal face protection can only be used if the oxygen reduction line of defense is in place and functioning.

b. Nitrometer Mask:

Nitrometer type masks such as CESCO Model No. 10307 and MSA Series 500 are approved for mixer loading operations. In cases where respirators do not fit comfortably under these masks an MSA backpack respirator designed especially for this purpose can be used.

c. Splash Goggle:

Approved splash goggles or safety glasses must be worn under nitrometer masks. One example of an approved splash goggle is the Monogoggle* manufactured by American Allsafe Company, Inc. model number G-202-10R designed specifically for non-ventilated eye protection against splash hazards.

d. Hood:

For 360^{o} head protection, a one piece hood such as 3M's W-5005 Whitecap* helmet is recommended, Attachment IV. This unit, which requires plant breathing air at a minimum 15 cfm and 50 psi, meets all NOISH and OSHA regulations. The unit fits all operators without requirement of shaving or other respirator type fitting restrictions. Operators can be heard when speaking with the helmet on, which is not possible with some respirators.

ATTACHMENT V

e. Airhat:

The 3M brand W-316 Airhat provides, in addition to hardhat protection, facial protection equivalent to a face shield as well as meeting NIOSH and OSHA requirements for protection from toxic dusts and mists.

MAP KEY

- FIRE ALARM BOX
- FENCE
- PROPERTY LINE WITHOUT FENCE
- WATER CANNONS
- HOSE HOUSE
- GUARD HOUSE (ENTRY CONTROL)
- TRUCK ROUTES
- HW TANK
- HW STORAGE PAD
- WATER
- NPDES OUTFALLS
- 100 YEAR FLOOD PLAIN
- DRAINAGE SHUT OFF VALVE - DRUM PAD
- DRAINAGE - DRUM PAD
- W WELL (NON POTABLE)
- PREVAILING WIND & SPEED
- LOADING/UNLOADING SPOTS

NORTH

ATTACHMENT I

RCRA TOPOGRAPHICAL MAP

E.I DUPONT DE NEMOURS & CO.
FINISHES & FABRICATED PRODUCTS DEPT.
1930 TREMAINSVILLE ROAD
TOLEDO, OHIO 43613 #OHD005041343

SCALE 1"=200'-0" UPDATED SEPT., 1987

SOURCE: 4-TOPO MAPS FROM-TOLEDO-LUCAS COUNTY PLAN COMMISSION